Novitates

PUBLISHED BY THE AMERICAN MUSEUM OF NATURAL HISTORY CENTRAL PARK WEST AT 79TH STREET, NEW YORK, N.Y. 10024 Number 2874, pp. 1–33, figs. 1–92 April 23, 1987

Studies on Malagasy Spiders, 3. The Zelotine Gnaphosidae (Araneae, Gnaphosoidea), with a Review of the Genus *Camillina*

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ABSTRACT

Zelotes is the only zelotine gnaphosid genus previously recorded from Madagascar; Zelotes bastardi (Simon) and Z. madagascaricus (Strand) probably represent females and males, respectively, of a single species. Only females exist in current collections, and their affinities remain uncertain. Three other zelotine species occur in the Malagasy collections studied: the cosmopolitan, synanthropic species Urozelotes rusticus (L. Koch), and two species of the genus Camillina. A revision of the Old World Camillina indicates that both those species are new (C. tsima and C. fiana) and endemic to Madagascar and to Madagascar and the Comoro Islands, respectively; the two are not sister species. A recent revision of the American Camillina is supplemented with new descriptions, synonymies, and records. Echemella aldabrae Strand, Echemus pavesii Simon, Zelotes tucumanus Mello-Leitão, and Z. tobari Mello-Leitão are transferred to Camillina; the latter two names are newly synonymized with C. pulcher (Keyserling) and C. arguta (Simon), respectively. Camillina natalensis Lawrence is newly synonymized with C. cordifera (Tullgren). Discovery of the type of C. galapagoensis (Banks) indicates that this species was previously misidentified by Platnick and Shadab; their species C. cruz is newly synonymized and the species misidentified by them as C. galapagoensis is described as C. isabela. Thirteen other new species are described: C. maun from Namibia, Botswana, and South Africa; C. kaibos from the Ivory Coast and Kenya; C. capensis from South Africa; C. namibensis from Namibia; C. kochalkai, C. madrejon, C. cui, and C. mahnerti from Paraguay; C. pilar from Paraguay and Argentina; C. mauryi, C. cordoba, and C. galianoae from Argentina; and C. penai from northern Chile and southern Peru. Males of eight species

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are described for the first time: C. pavesii (Simon), C. balboa Platnick and Shadab, C. nova Platnick and Shadab, C. major (Keyserling), C. marmorata

(Mello-Leitão), C. oruro Platnick and Shadab, C. calel Platnick and Shadab, and C. minuta (Mello-Leitão).

INTRODUCTION

This paper, the twenty-fourth in a series on gnaphosoid spiders, is the sixth dealing with the zelotine Gnaphosidae, an informal group containing those gnaphosids with a preening comb situated ventrodistally on metatarsi III and IV (Platnick and Shadab, 1982a, figs. 1, 2). We provide here a review of those zelotine species previously or newly reported from Madagascar. As in previous studies on Malagasy spiders, determining whether the Madagascar taxa are endemic has required a full revision of the mainland African fauna (in this case, of the genus Camillina). We have also taken the opportunity to supplement an earlier revision of the New World species of Camillina (Platnick and Shadab, 1982b).

The only Malagasy zelotines previously recorded are Zelotes bastardi (Simon, 1896), described on the basis of a female from Majunga, and Zelotes madagascaricus (Strand, 1907), based on a male from Nossi-Bé. Neither species was illustrated, and neither has been dealt with substantively by subsequent authors; their type specimens are either lost (Simon) or destroyed (Strand). Luckily, Simon provided a fairly detailed description of the epigynum which leaves little doubt that two females in currently available collections belong to the species. One of these was taken at Ambivy, in the Kamoro valley in Majunga, by G. Schmitz in May 1964, and is housed in the Musée Royal de l'Afrique Centrale, Tervuren. The other was taken at Anaborano in Diégo-Suarez by R. Legendre during September, and is now housed in the American Museum of Natural History. The epigynal structure is remarkable (figs. 47, 48) and does not closely correspond with that of any other species of Zelotes known to us. The range of variation in female genitalic structure within Zelotes is extensive, however, even with the constrictive limitation of that genus adopted by Platnick and Shadab (1983). As the only known synapomorphies of Zelotes are in male palpal structure, little can be said about the

accuracy of the generic placement of Z. bastardi until males of the species can be studied. It seems likely that Strand's male, deposited in the Naturhistorischen Museum at Lübeck, Germany, and destroyed during World War II, was of this species; Strand's descriptions (1907, 1908) at least demonstrate that his male was probably a Zelotes rather than any of the species recorded below from Madagascar.

We have found three other zelotine species in available collections of Malagasy gnaphosids. One, unsurprisingly, is the virtually cosmopolitan species *Urozelotes rusticus* (L. Koch). Because these spiders prosper in manmade environments, they have been widely introduced into scattered localities; similarly introduced cockroaches often form the bulk of their diet. The lengthy synonymy, genitalic illustrations, and previous records of the species are provided in Platnick and Murphy (1984). Only one female is known from Madagascar, taken in Tuléar by L. Bigot in June 1965 and deposited in the Musée Royal de l'Afrique Centrale.

The remaining two species belong to Camillina, a genus widespread in central and southern Africa and from Mexico and the Caribbean south to Chile. As is frequently the case in African Gnaphosidae, numerous species have been assigned to the genus but relatively few of these are actually congeneric with the type species, Camillina cordifera (Tullgren). Some of these misplaced species were transferred by Platnick and Murphy (1984); the others (to be discussed in subsequent papers in this series) include: C. aestus Tucker, C. algerica Dalmas, C. arida (Purcell), C. atlantica Berland, C. berlandi Denis, C. browni Tucker, C. canariensis (Simon), C. citipes (Simon), C. corrugata (Purcell), C. europaea Dalmas, C. fibulata Berland, C. fuscipes (Simon), C. lubrica (Simon), C. lutea Tucker, C. lutoria (Tullgren), C. mollis (O. P.-Cambridge), C. postrema Tucker, C. scutata (Simon), C. setosus Tucker, C. simplex (Simon), C. smythiesi (Simon), C. subtilis (Simon), C. villiersi Denis, and C. vivesi Marinaro. Of these species, only C. setosus Tucker (1923) from South Africa seems at all likely to be a true Camillina. Tucker thought the species was closest to two true Camillina species, C. procurva (Purcell) and C. biplagia Tucker. Unfortunately, the types cannot be found at the South African Museum, and we have not been able to match any known Camillina species to Tucker's highly stylized illustrations.

Both Malagasy Camillina species proved to be undescribed. One (C. fiana) is a relatively typical member of the genus occurring also on the Comoro Islands, whereas the other (C. tsima) appears endemic to Madagascar and has more elaborate genitalia closer to those of the new African species C. kaibos than to those of C. fiana. Hence it appears likely that the origin of these species antedates the separation of Madagascar from continental Africa, as might be predicted from the trans-Atlantic distribution of the genus. The Old and New World faunas of Camillina do not appear to be monophyletic sister taxa, as species like C. tsima and C. kaibos seem closer in genitalic structure to American species such as those assigned below to the major group than to more typical species from either continent. Some specimens of Camillina have been taken on various Indian and Pacific Ocean islands (Aldabra, the Seychelles, New Guinea, Borneo, Hawaii, and the Marshall Islands), but in each case they have proved to belong to American or African species.

We are deeply indebted to the curators and collectors listed below for helping us to amass sufficient study material, and especially to Dr. R. Legendre of the Université des Sciences et Techniques du Languedoc, Montpellier, for access to his Malagasy collections. The illustrations were supplied by Dr. M. U. Shadab of the American Museum of Natural History; Dr. C. D. Dondale of the Biosystematics Research Centre, Agriculture Canada, provided helpful comments on a draft of the manuscript. The fieldwork and research on this project were supported by National Sciences Foundation grants BSR-8312611 and BSR-8406225, respectively. The format of the descriptions follows that of Platnick and Shadab (1975); all measurements are in millimeters.

COLLECTIONS EXAMINED

AMNH, American Museum of Natural History, including material donated by Dr. A. Russell-Smith

BMNH, British Museum (Natural History), Mr. P. Hillyard

BPBM, B. P. Bishop Museum, Dr. J. M. Tenorio CAS, California Academy of Sciences, Dr. W. Pulawski

FMNH, Field Museum of Natural History, Dr. J. Kethley

IRSN, Institut Royal des Sciences Naturelles, Brussels, Dr. L. L. Baert

JAB, Dr. J. A. Beatty

JAM, Mr. J. A. Murphy

MACN, Museo Argentino de Ciencias Naturales, Drs. E. A. Maury and M. E. Galiano

MCZ, Museum of Comparative Zoology, Harvard University, Dr. H. W. Levi

MHNG, Muséum d'Histoire Naturelle, Genève, Dr. V. Mahnert

MLP, Museo de La Plata, Dr. R. Arrozpide

MNHN, Muséum National d'Histoire Naturelle, Dr. J. Heurtault

MNRJ, Museu Nacional, Rio de Janeiro, Dr. A. Timotheo da Costa

MRAC, Musée Royal de l'Afrique Centrale, Dr. R. Jocqué

MSP, Museu de Zoologia da Universidade de São Paulo, Dr. H. Reichardt

NCA, National Collection of Arachnida, Pretoria, Dr. A. Dippenaar

NMP, Natal Museum, Pietermaritzburg, Dr. C. Griswold

NRS, Naturhistoriska Riksmuseet, Stockholm, Dr. T. Kronestedt

PGA, Dr. P. G. Aguilar F.

QMB, Queensland Museum, Brisbane, Drs. V. E. Davies and R. J. Raven

SAM, South African Museum, Dr. V. Whitehead UUZM, Zoologiska Institutionen, Uppsala Universitet, Dr. Å Holm

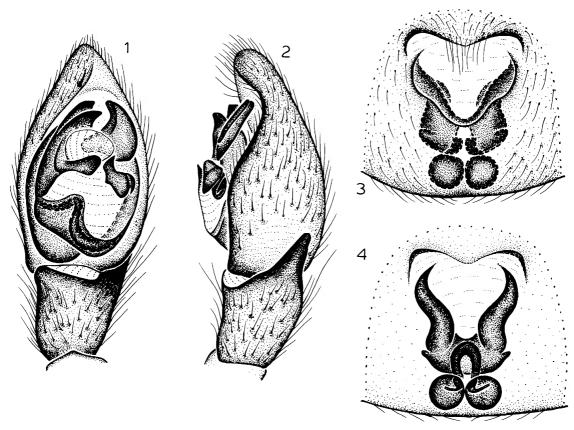
ZMH, Zoologisches Museum, Universität Hamburg, Dr. G. Rack

Camillina Berland

Camilla Tullgren, 1910, p. 105 (type species by monotypy Camilla cordifera Tullgren); preoccupied by Camilla Haliday, 1836 (Diptera), and others.

Camillina Berland, 1919, p. 458 (nomen novum for Camilla).

Camillana Strand, 1928, p. 42 (superfluous nomen novum for Camilla).



Figs. 1-4. Camillina cordifera (Tullgren). 1. Palp, ventral view. 2. Palp, retrolateral view. 3. Epigynum, ventral view. 4. Epigynum, dorsal view.

DIAGNOSIS: Specimens of Camillina can be distinguished from all other gnaphosids by the combined presence of a preening comb on metatarsi III and IV (Platnick and Shadab, 1982a, figs. 1, 2), large and almost touching posterior median eyes (Kaston, 1978, fig. 528), a prolaterally situated, bifid terminal apophysis and medially situated, recessed embolar base on the male palp (fig. 1), and a median epigynal plate (fig. 3).

DESCRIPTION: See Platnick and Shadab (1982b, p. 3).

MISPLACED SPECIES: See Introduction.

THE OLD WORLD SPECIES

Camillina cordifera (Tullgren) Figures 1-4

Camilla cordifera Tullgren, 1910, p. 105, fig. 16a-d (male and female syntypes from Kibo-

noto, Mt. Kilimanjaro, Kilimanjaro, Tanzania, in NRS, examined).

Camillina cordifera: Berland, 1919, p. 462. Tucker, 1923, p. 341, fig. 59. Saaristo, 1978, p. 108, figs. 92-96. Platnick, 1981, p. 452, figs. 1-4.

Camillina natalensis Lawrence, 1938, p. 476, fig. 12 (male holotype from Umhlali, North Coast, Natal, South Africa, in NMP, examined). NEW SYNONYMY.

DIAGNOSIS: The prolaterally folded embolus of males (figs. 1, 2), and triangular epigynal plate (bordered internally by sinuous lateral ducts) of females (figs. 3, 4) are diagnostic.

MALE: Total length 3.92 ± 0.39 . Carapace 1.78 ± 0.16 long, 1.36 ± 0.15 wide. Femur II 1.11 ± 0.11 long. Eye sizes and interdistances: AME 0.08, ALE 0.10, PME 0.13, PLE 0.11; AME-AME 0.06, AME-ALE 0.02, PME-PME 0.02, PME-PLE 0.04, ALE-PLE 0.04; MOO length 0.25, front width 0.22,

back width 0.28. Terminal apophysis with two distal points; embolus folded prolaterally (figs. 1, 2). Leg spination: tibia IV p1-1-1; metatarsus IV v2-1p-0.

FEMALE: Total length 3.78 ± 0.46 . Carapace 1.50 ± 0.05 long, 1.15 ± 0.05 wide. Femur II 0.94 ± 0.04 long. Eye sizes and interdistances: AME 0.07, ALE 0.09, PME 0.11, PLE 0.08; AME-AME 0.06, AME-ALE 0.02, PME-PME 0.01, PME-PLE 0.04, ALE-PLE 0.03; MOQ length 0.25, front width 0.20, back width 0.23. Median plate narrowed posteriorly, median ducts arched (figs. 3, 4). Leg spination: femur IV p0-0-0; metatarsus III r0-1-2.

MATERIAL EXAMINED: Angola: Ampungo (province unknown), July 11, 1925 (AMNH), 19. Huíla: Sá de Bandeira, Oct. 2, 1949 (B. Malkin, CAS), 19. Botswana: Kgale Hill, Gaborone, Jan. 18, 1976, under stones (A. Russell-Smith, BMNH), 19; Maun, Island safari lodge, Sept. 21, 1975, riverine woodland (A. Russell-Smith, BMNH), 39; Maun, Maphaneng pan, Feb. 24-Apr. 1, 1976, riverine woodland (A. Russell-Smith, BMNH), 38, 59, Jan. 30, 1977, same (A. Russell-Smith, BMNH), 18, 29, Mar. 3, 1976, same, in grass tufts (A. Russell-Smith, BMNH), 38, 39: Maxwee, Okavango delta, Sept. 1975, grassland pitfalls (A. Russell-Smith, BMNH), 18, Sept. 26, 1975, floodplain grassland (A. Russell-Smith, AMNH), 68, 79, Dec. 1975, mopane woodland (A. Russell-Smith, BMNH), 18, 29, May-June 1976, same (A. Russell-Smith, BMNH), 18, June-July 1976, floodplain grassland (A. Russell-Smith, BMNH), 39; Mboma Island, Okavango, June 20, 1977, wet Setaria grassland (A. Russell-Smith, BMNH), 19; Thamalakane River, Maun, Feb. 1, 1976, grassland (A. Russell-Smith, BMNH), 19, Mar. 18, 1977, Setaria grassland (A. Russell-Smith, BMNH), 1 9, July 24, 1977, same (A. Russell-Smith, BMNH), 18, 29. Burundi: Plaine du la Rusisi, Gihanga sector, May 1966, elev. 890 m (S. Ndani, MRAC), 18. Kenya: Coast: Kilifi, Aug. 30-Sept. 24, 1977, elev. 10 m, coastal garden (J. A. Murphy, JAM), 6δ , $5\circ$, Sept. 3, 1977, shore (J. A. Murphy, JAM), 19, Aug. 1980, elev. 10 m, coastal scrub (J. A. Murphy, JAM), 19, Aug. 1980, shore, dunes (J. A. Murphy, JAM), 48, 19. Rift Valley: Kaibos Farm, Kitale, Aug.

6-15, 1972, elev. 2000 m, garden (J. A. Murphy, JAM), 18, 29, Aug. 19-Sept. 6, 1984. elev. 2000 m, garden, riverine forest (J. A. Murphy, JAM), 128, 99; Kipsigis Farm, Tinderet Forest, Aug. 22-27, 1977, elev. 2300 m (G. Coulon, MRAC), 18, 19; Kitale Forest, Aug. 4, 1972, elev. 1900 m (J. A. Murphy, JAM), 18; Lake Naivasha, Aug. 3, 1974, elev. 1900 m, hotel grounds (J. A. Murphy, JAM), 28; Lake Nakuru, Jan. 25, 1971, cyperus vegetation (T. Kronestedt, NRS), 19; Talau Hill, near Kaibos Farm, Aug. 24, 1984, elev. 2100 m (J. A. Murphy, JAM), 19; Warges, Dec. 28–30, 1975, pitfalls at brook (Å. Holm, UUZM), 18. Nairobi Area: Muthaiga Golf Club, Nairobi, Aug. 30, 1972, elev. 1600 m (J. A. Murphy, JAM), 19 (penultimate); Ruiru, near Nairobi, Sept. 12-13, 1980, elev. 1700 m, coffee farm, garden (J. A. Murphy, JAM), 19, Aug. 17, 1984, same (J. A. Murphy, JAM), 19. Namibia: Andara-Kavango. Okavango River, 1979 (M. E. Baddeley, MRAC), 19. Rwanda: Butare, Apr. 1973 (P. Nyalaguka, MRAC), 19; Gishamvu (Butare). Feb. 23, 1971 (P. Nyalaguka, MRAC), 18. Seychelles: Mahé Nord: Anse à la Mouche, July 16-31, 1972 (P. L. G. Benoit, J. J. Van Mol, AMNH), 18, 19. South Africa: Cape Province: Grahamstown, Oct. 29, 1978, under stone (P. Croeser, NCA), 18; Mzimhlava River mouth, Lusikisiki District, Transkei coast, Jan. 1980, coastal evergreen forest (M. E. Baddeley, MRAC), 16; Pineapple Research Station, East London, June 5, 1979 (G. Petty, D. Keetch, NCA), 28, 39; Sederberg, Clanwilliam District, July 1962, elev. 500-1100 m, humus under bush or large stones (N. Leleup, MRAC), 19. Natal: Kentani, 1904 (Pegler, SAM), 19; near Pt. Shepstone, Sept. 1905 (W. F. Purcell, SAM), 18, 19; Umhlali, North Coast, July 1937 (R. F. Lawrence, NMP), 18 (holotype). Transvaal: Balfour, Jan. 2, 1980, pitfalls (D. Uys, NCA), 39; Buffelsfontein, Rustenburg, Nov. 11, 1980, pitfalls (D. Uys, NCA), 19; Dwarsrivier, 35 mi S Louis Trichardt, Mar. 26, 1958, elev. 1000 m (E. S. Ross, R. E. Leech, CAS), 19; Groblersdal, Feb. 28, 1980, cotton field (M. Stiller, NCA), 29; Kalkfontein, Groblersdal, Jan. 3, 1980, pitfalls (D. Uys, NCA), 19; Kroondal, Rustenburg, Dec. 12, 1980, pitfalls (D. Uys, NCA), 18; Leeudoringstad, Nov. 4, 1977 (M.

K. P. Meyer, NCA), 19; junction, Marico and Crocodile rivers, northwestern Transvaal, Jan.-Feb. 1918 (R. W. Tucker, SAM), 19; Pretoria, Jan. 4-28, 1980, pan trap (J. Peck, AMNH), 48, 39; Rust de Winter, Jan. 20, 1981, cotton field (A. S. Dippenaar, NCA), 29, Mar. 10, 1981, same (A. S. Dippenaar, NCA), 1ô, Jan. 13-Mar. 3, 1981, same, pitfalls (M. Stiller, NCA), 58, Feb 17, 1981, pitfalls (A. S. Dippenaar, NCA), 48. Tanzania: Coast: U.D.S.M. Campus, Dar es Salaam, 1970–1971, leaf litter (K. M. Howell, MRAC), 29. Kilimanjaro: Kibonoto, Mt. Kilimanjaro (NRS), 18, 19 (syntypes). Zaire: Kivu: Ibanda, 1952 (M. Vandelannoite, MRAC), 19; Plaine de la Ruindi Bulemba, June 21, 1972, elev. 1000 m, in termite mound (R. P. M. Lejeune, MRAC), 19. Zimbabwe: Salisbury, Apr. 1917 (R. W. Tucker, SAM), 19.

DISTRIBUTION: Central and southern Africa and the Seychelle Islands.

Synonymy: We have detected no genitalic or other differences that would support the recognition of *C. natalensis* as a distinct species.

Camillina pavesii (Simon), new combination Figures 5-8

Echemus pavesii Simon, 1897, p. 387 (female holotype from Lake Stefanie, Sidamo, Ethiopia, in BMNH, examined).

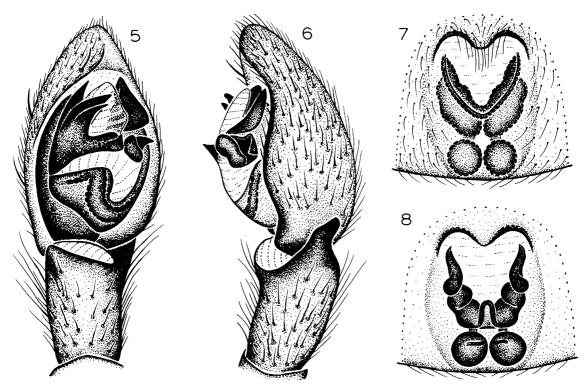
DIAGNOSIS: Males can be recognized by having the most distal of the three points on the terminal apophysis directed distally (fig. 5), females by the twisted lateral epigynal ducts (fig. 8).

MALE: Total length 3.50 ± 0.44 . Carapace 1.56 ± 0.21 long, 1.17 ± 0.16 wide. Femur II 1.00 ± 0.11 long. Eye sizes and interdistances: AME 0.09, ALE 0.09, PME 0.12, PLE 0.11; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.02, PME-PLE 0.03, ALE-PLE 0.04; MOQ length 0.28, front width 0.23, back width 0.26. Terminal apophysis with three distal points, most distal point directed obliquely, distally; embolus bent (figs. 5, 6). Leg spination: tibia IV p1-1-1; metatarsus I v2-0-0.

FEMALE: Total length 4.03 ± 0.63 . Carapace 1.54 ± 0.15 long, 1.13 ± 0.14 wide. Femur II 0.95 ± 0.10 long. Eye sizes and

interdistances: AME 0.08, ALE 0.09, PME 0.12, PLE 0.09; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.01, PME-PLE 0.03, ALE-PLE 0.04; MOQ length 0.26, front width 0.21, back width 0.25. Median plate triangular, variable in width, sometimes slightly wider than figured, lateral ducts twisted (figs. 7, 8). Leg spination: tibiae: III v1p-2-2; IV p1-1-1, v1p-2-2; metatarsus I v2-0-0.

MATERIAL EXAMINED: Angola: Lunda: Saurimo, Sept. 20, 1949 (B. Malkin, CAS), 19. Cameroon: Galim, Aug. 13-20, 1971 (F. Puylaert, MRAC), 18, 19. Central African Republic: Bambari, Aug.-Sept. 1967 (C. Pierrard, MRAC), 18, 19. Ethiopia: Sidamo: Lake Stefanie, June 5, 1895 (A. D. Smith, BMNH), 19 (type); 5 km N Yaballo, Sept. 30, 1982, dry acacia savanna (A. Russell-Smith, AMNH), 18. Ivory Coast: R. C. I. Kossou, June 17-July 16, 1974, "jardin-Piège" (E. Tybaert, MRAC), 18, 19; Yabra, near Zatta, Oct. 1, 1974 (R. Jocqué, MRAC), 19. Kenya: Nairobi Area: 15 mi SW Nairobi, Jan. 15, 1970, elev. 5400 ft (M. E. Irwin, E. S. Ross, CAS), 19. Rift Valley: Hell's Gate, Naivasha, Aug. 9, 1974, dry area, elev. 2000 m (J. A. Murphy, JAM), 18, 29; Japata Estate, E side Mount Elgon, Mar. 21, 1938, savanna, elev. 2200 m (Å. Holm, UUZM), 19; Kacheliba, N Kitale, Aug. 1, 1972, dry area, elev. 1400 m (J. A. Murphy, JAM), 19; Mtemberr, N Kitale, Aug. 30-Sept. 4, 1984, dry area, elev. 1500 m (J. A. Murphy, JAM), 19; Suam River, E side Mount Elgon, Mar. 23, 1938, under stone, Acacia savanna, elev. 1950 m (A. Holm, UUZM), 29, Dec. 27, 1964, elev. 1950 m (Å. Holm, UUZM), 19. Nigeria: Lagos: Iseri, Mar. 26-30, 1949 (B. Malkin, CAS), 19. Western: Iita, Ibadan, Feb. 2, 1973 (A. Russell-Smith, BMNH), 83, 12, April 4– Nov. 27, 1973, pitfall traps, cultivated plots (A. Russell-Smith, AMNH), 128, 29, April 16-25, 1973-1974 (A. Russell-Smith, BMNH), 148, 79, April 25, 1974, pitfall traps, fallow bush (A. Russell-Smith, AMNH), 39. South Africa: Transvaal: Bethal, Jan. 29, 1980, pitfall trap (D. Uys, NCA), 19. Uganda: Entebbe, 1959 (P. L. G. Benoit, MRAC), 18, 19: Lutebe River margin, Busaga district, Feb. 1967 (J. Ruabunesa, MRAC), 19; Nawangonsa marsh, Busaga district, Feb. 1967 (J. Ruabunesa, MRAC), 18, 19; Warumbe River, Busaga district, Feb. 1967, gallery forest



Figs. 5-8. Camillina pavesii (Simon). 5. Palp, ventral view. 6. Palp, retrolateral view. 7. Epigynum, ventral view. 8. Epigynum, dorsal view.

(J. Ruabunesa, MRAC), 19; Yaza River, Busaga district, Feb. 1967, gallery forest (J. Ruabunesa, MRAC), 18, 19. **Zaire:** Kivu: Plaine de la Ruindi Bulemba, June 21, 1972, elev. 1000 m, in termite mound (R. P. M. Lejeune, MRAC), 18, 39; Vallée de la moyenne Semliki, July 31-Aug. 6, 1968 (R. P. M. Lejeune, MRAC), 28, 29.

DISTRIBUTION: Widespread in central Africa from southern Ethiopia south to Transvaal.

Camillina aldabrae (Strand), new combination Figures 9-12

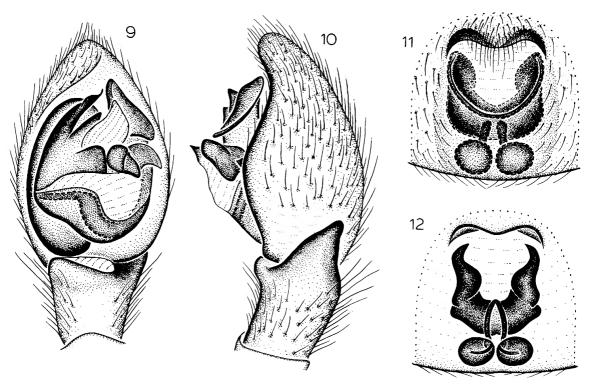
Echemella aldabrae Strand, 1907, p. 726 (male and female syntypes from Aldabra Island, deposited in Naturhistorischen Museum, Lübeck, Germany, destroyed); 1908, p. 14.

Note: Although Strand's type specimens are destroyed and he provided no illustrations of the species, his descriptions of the eye pattern, epigynum, and male palp agree well with those of this species, which has been taken on Aldabra Island.

DIAGNOSIS: The abruptly narrowed tip of the distal point of the terminal apophysis of males (fig. 9) and the anteriorly expanded lateral epigynal ducts of females (figs. 11, 12) are diagnostic.

MALE: Total length 3.74 ± 0.35 . Carapace 1.71 ± 0.20 long, 1.31 ± 0.15 wide. Femur II 1.05 ± 0.13 long. Eye sizes and interdistances: AME 0.07, ALE 0.09, PME 0.11, PLE 0.08; AME-AME 0.04, AME-ALE 0.02, PME-PME 0.01, PME-PLE 0.03, ALE-PLE 0.04; MOQ length 0.23, front width 0.18, back width 0.23. Distal point of terminal apophysis abruptly narrowed, curved (fig. 9), embolus extended ventrolaterally (fig. 10), somewhat variable in size. Leg spination: femur III r0-0-1; tibia IV p1-1-1.

FEMALE: Total length 4.29 ± 0.64 . Carapace 1.75 ± 0.21 long, 1.28 ± 0.14 wide. Femur II 1.09 ± 0.14 long. Eye sizes and interdistances: AME 0.06, ALE 0.09, PME 0.11, PLE 0.08; AME-AME 0.05, AME-ALE



Figs. 9-12. Camillina aldabrae (Strand). 9. Palp, ventral view. 10. Palp, retrolateral view. 11. Epigynum, ventral view. 12. Epigynum, dorsal view.

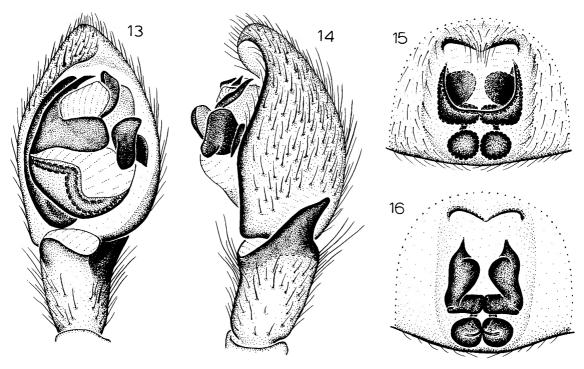
0.02, PME-PME 0.01, PME-PLE 0.03, ALE-PLE 0.04; MOQ length 0.24, front width 0.17, back width 0.23. Lateral epigynal ducts anteriorly expanded, visible through sides of median plate (figs. 11, 12). Leg spination: femora: II p0-0-0; III r0-0-1; tibia IV p1-1-1; metatarsus III 0-1-2.

OTHER MATERIAL EXAMINED: Aldabra Island: Malabar, 1970 (G. Hamadian, MRAC), 19. Cameroon: Djohong, Sept. 1-5, 1971 (F. Puylaert, MRAC), 19. Central African Republic: Bambari, Feb. 1969 (G. Pierrard, MRAC), 29. Chad: massif du Tibesti, July-Oct. 1965 (Y. Brandily, MRAC), 18, 19. Ethiopia: Aberosa Ranch, Adami Tulu, Sept. 23, 1982, open acacia woodland on hill (A. Russell-Smith, AMNH), 28, 29; Awash National Park, July 10, 1986, under stones, arid grassland near hotel (A. Russell-Smith, AMNH), 28, 39; Melka Werer IAR Station, near Awash, Feb. 17, 1986, riverine acacia forest (A. Russell-Smith, AMNH), 38, 19. Kenya: Central: Aberdare, Feb. 19–21, 1969, elev. 2900-2950 m (Å. Holm, UUZM), 18. Malaysia: Sarawak: Mulu expedition, quadrat on summit, 1978 (H. W. Vallack, BMNH), 18. Nigeria: "prob. Nigeria—ex ship docked at Teesmouth," England (BMNH), 18. Rwanda: Butare, June 1971 (P. Nyalaguka, MRAC), 19. Senegal: Dakar Peninsula, July 1945 (E. H. Newcomb, AMNH), 18, 19; Parc Hann, Dakar, Nov. 26, 1983 (E. Tybaert, MRAC), 19. South Africa: Natal: Kentani, 1905 (Pegler, SAM), 19. Zaire: Kasai: Dumbi, Oct. 1927 (H. Schouteden, MRAC), 18, 19; Ishemanga, 1930 (Fourche, MRAC), 18, 39; Kabuya Nivadia, 1930 (Fourche, MRAC), 188, 69; Lusingi Mukendi (Fourche, MRAC), 138, 99.

DISTRIBUTION: Central Africa south to Natal, Aldabra, and (probably introduced into) Borneo.

Camillina maun, new species Figures 13-16

TYPE: Male holotype from windows and walls of Centre for Overseas Pest Research



Figs. 13-16. Camillina maun, new species. 13. Palp, ventral view. 14. Palp, retrolateral view. 15. Epigynum, ventral view. 16. Epigynum, dorsal view.

Laboratory, Maun, Botswana (June 13, 1977; A. Russell-Smith), deposited in BMNH.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

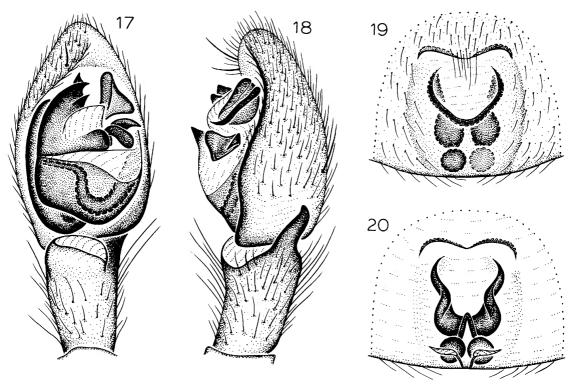
DIAGNOSIS: Males can be recognized by the prolaterally displaced embolus (fig. 13), females by the anteriorly expanded and closely spaced lateral epigynal ducts (figs. 15, 16).

MALE: Total length 3.17–3.67. Carapace 1.51–1.67 long, 1.14–1.28 wide. Femur II 0.95–0.97 long. Eye sizes and interdistances: AME 0.07, ALE 0.08, PME 0.10, PLE 0.09; AME-AME 0.04, AME-ALE 0.02, PME-PME 0.02, PME-PLE 0.05, ALE-PLE 0.04; MOQ length 0.23, front width 0.18, back width 0.22. Embolus shifted prolaterally; terminal apophysis with single distal point; retrolateral tibial apophysis abruptly narrowed distally (figs. 13, 14). Leg spination typical for genus.

FEMALE: Total length 3.13–5.11. Carapace 1.33–1.81 long, 1.03–1.42 wide. Femur II 0.79–1.19 long. Eye sizes and interdistances: AME 0.07, ALE 0.08, PME 0.09, PLE 0.07; AME-AME 0.04, AME-ALE 0.02, PME-PME 0.01, PME-PLE 0.04, ALE-PLE 0.05;

MOQ length 0.22, front width 0.18, back width 0.19. Lateral epigynal ducts greatly expanded anteriorly, closely spaced, visible ventrally through median plate (figs. 15, 16). Leg spination: tibia IV p1-1-1.

OTHER MATERIAL EXAMINED: Botswana: Kwaii River near Txaxinhla Lagoon, Okavango, Jan. 13, 1976, riverine forest (A. Russell-Smith, BMNH), 19; Maun, Maphaneng pan, Feb. 8, 1976, riverine woodland (A. Russell-Smith, BMNH), 19; Maxwee, Okavango delta, Sept. 26, 1975, mopane woodland (A. Russell-Smith, AMNH), 18; Sebele, near Gaborone, Jan. 17, 1976, under stones, rocky outcrop (A. Russell-Smith, BMNH), 29. Namibia: Annabis Farm, latitude 20°00'S, longitude 14°38′E, Feb. 23-24, 1969 (B. Lamoral, NMP), 19. South Africa: Transvaal: Buffelspoort, Rustenburg, Dec. 3, 1980, pitfall trap (D. Uys, NCA), 19; Derdepoort, Pretoria, Dec. 9, 1980, pitfall traps (D. Uys, NCA), 29; Ohrigstad, Lydenburg district, Mar. 27, 1962 (N. Leleup, MRAC), 18, 19; Pretoriuskop, Kruger National Park, Dec. 13, 1985, Berlese, Ficus sycomorus fruit and litter, thornscrub (S. and J. Peck, AMNH), 19.



Figs. 17-20. Camillina fiana, new species. 17. Palp, ventral view. 18. Palp, retrolateral view. 19. Epigynum, ventral view. 20. Epigynum, dorsal view.

DISTRIBUTION: Namibia east to Botswana and Transvaal.

Camillina fiana, new species Figures 17–20

TYPE: Male holotype from Fianarantsoa, Fianarantsoa, Madagascar (R. Legendre), deposited in MNHN.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

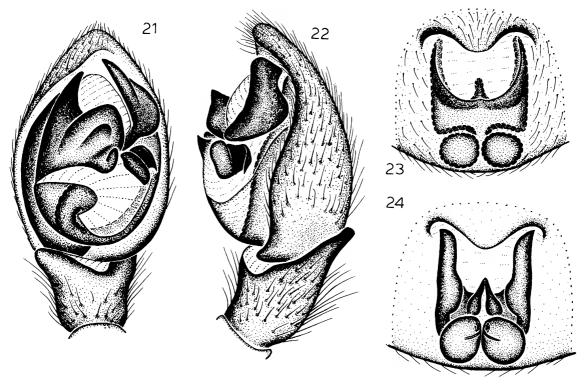
DIAGNOSIS: The distally folded distal point of the terminal apophysis of males (fig. 17) and extremely narrow elevated lateral edges of the lateral epigynal ducts of females (fig. 20) are diagnostic.

MALE: Total length unknown (abdomen missing). Carapace 1.51 long, 1.19 wide. Femur II 0.97 long. Eye sizes and interdistances: AME 0.07, ALE 0.09, PME 0.11, PLE 0.08; AME-AME 0.06, AME-ALE 0.02, PME-PME 0.01, PME-PLE 0.05, ALE-PLE 0.06; MOQ length 0.24, front width 0.20, back width 0.23. Distal point of terminal

apophysis twisted (fig. 17); embolus relatively short (fig. 18). Leg spination: tibiae: III v1p-2-2; IV p1-1-1; metatarsi: I v1p-0-0; III p0-2-2, r0-1-2.

FEMALE: Total length 3.79–4.48. Carapace 1.51–1.80 long, 1.17–1.33 wide. Femur II 0.97–1.11 long. Eye sizes and interdistances: AME 0.08, ALE 0.08, PME 0.11, PLE 0.07; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.02, PME-PLE 0.05, ALE-PLE 0.04; MOQ length 0.25, front width 0.21, back width 0.24. Median epigynal plate relatively short, rounded (fig. 19); lateral edges of lateral epigynal ducts narrowly elevated (fig. 20). Leg spination: femur III d1-1-1; tibia IV p1-1-1; metatarsi: I v2-0-0; II v2-1p-0.

OTHER MATERIAL EXAMINED: Comoro Islands: Grande Comoro: Itsoundzou plateau, Nov. 30, 1983, elev. 600 m, sweeping low vegetation (R. Jocqué, MRAC), 19. Madagascar: Tamatave: Androrona, Oct. 1971 (A. Lambillon, MRAC), 19. Tananarive: Tananarive (R. Legendre, MNHN), 19. Tuléar:



Figs. 21-24. Camillina tsima, new species. 21. Palp, ventral view. 22. Palp, retrolateral view. 23. Epigynum, ventral view. 24. Epigynum, dorsal view.

Beloha, Aug. (J. Millot, MNHN), 1º; Beloka, Aug. (J. Millot, MNHN), 1º; Tsiombe, Aug. 1948 (J. Millot, AMNH), 1º.

DISTRIBUTION: Madagascar and the Comoro Islands.

Camillina tsima, new species Figures 21–24

TYPES: Male holotype and female paratype from Lac Tsimananpetsotsa, Tuléar, Madagascar (March 1964; D. de Saint-Ours), deposited in MNHN.

ETYMOLOGY: The specific name is an arbitrary combination of letters.

DIAGNOSIS: Males can be recognized by the medially widened embolus (fig. 21), females by the anterior extension of the median epigynal ducts (figs. 23, 24).

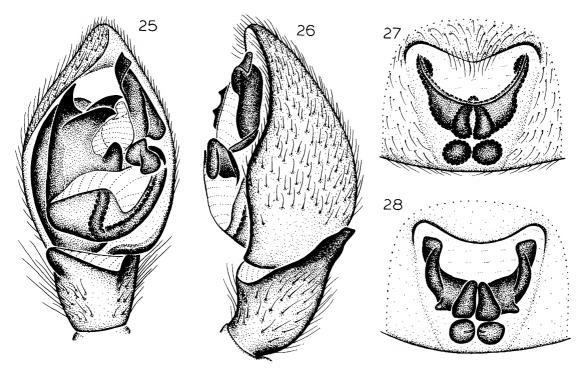
MALE: Total length 3.67, 3.94. Carapace 1.85, 1.91 long, 1.43, 1.51 wide. Femur II 1.09, 1.19 long. Eye sizes and interdistances: AME 0.07, ALE 0.10, PME 0.13, PLE 0.10;

AME-AME 0.05, AME-ALE 0.03, PME-PME 0.02, PME-PLE 0.05, ALE-PLE 0.04; MOQ length 0.25, front width 0.20, back width 0.28. Distal points of terminal apophysis widely separated; embolus widened medially (figs. 21, 22). Leg spination: tibia IV p1-1-1.

FEMALE: Total length 3.76–4.44. Carapace 1.51–1.91 long, 1.22–1.51 wide. Femur II 0.94–1.19 long. Eye sizes and interdistances: AME 0.07, ALE 0.09, PME 0.10, PLE 0.09; AME-AME 0.05, AME-ALE 0.03, PME-PME 0.02, PME-PLE 0.06, ALE-PLE 0.04; MOQ length 0.21, front width 0.19, back width 0.22. Median epigynal ducts extending anterior of posterior edge of medial plate (figs. 23, 24). Leg spination: tibia IV p1-1-1.

OTHER MATERIAL EXAMINED: Madagascar: Tananarive: Ankongona, Imerintsiatosika, May 19, 1964 (R. Legendre, AMNH, MNHN), 18, 29 (1 penultimate); district of Tananarive, 1958 (R. Legendre, MNHN), 29.

DISTRIBUTION: Madagascar.



Figs. 25-28. Camillina kaibos, new species. 25. Palp, ventral view. 26. Palp, retrolateral view. 27. Epigynum, ventral view. 28. Epigynum, dorsal view.

Camillina kaibos, new species Figures 25–28

TYPE: Female holotype from a garden at an elevation of 2000 m at Kaibos Farm, Kitale, Rift Valley, Kenya (August 19-September 6, 1984; J. A. Murphy), deposited in AMNH.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be recognized by the folded tip of the elongate embolus (fig. 25), females by the widened epigynal plate and medial ducts (figs. 27, 28).

MALE: Total length 3.61. Carapace 1.66 long, 1.22 wide. Femur II 1.08 long. Eye sizes and interdistances: AME 0.07, ALE 0.09, PME 0.11, PLE 0.09; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.01, PME-PLE 0.04, ALE-PLE 0.04; MOQ length 0.26, front width 0.19, back width 0.23. Embolus long, nearly straight, distally folded (figs. 25, 26). Leg spination: femur IV p0-0-0; metatarsi: I v1p-0-0; III r1-1-1; IV v2-1p-0.

FEMALE: Total length 3.01-4.37. Carapace 1.45-1.62 long, 1.06-1.20 wide. Femur II 0.92-1.08 long. Eye sizes and interdistances:

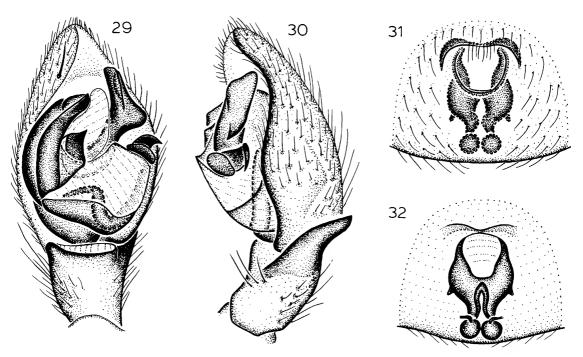
AME 0.06, ALE 0.08, PME 0.09, PLE 0.08; AME-AME 0.06, AME-ALE 0.03, PME-PME 0.02, PME-PLE 0.05, ALE-PLE 0.05; MOQ length 0.25, front width 0.18, back width 0.20. Medial epigynal plate short, wide; medial ducts greatly widened (figs. 27, 28). Leg spination: femur IV p0-0-0; tibia IV p1-1-1; metatarsi: I v2-0-0; III r1-1-1.

OTHER MATERIAL EXAMINED: Ivory Coast: R. C. I. Kossou, Dec. 15, 1974, savanna (R. Jocqué, MRAC), 29, Feb. 4, 1975, secondary forest (R. Jocqué, MRAC), 19. Kenya: Rift Valley: Mt. Elgon, E side, at Kaptegar, Dec. 21–31, 1964 (Å. Holm, UUZM), 19; Mt. Elgon, near Suam River, Dec. 5, 1937, elev. 1850 m, under stones in gallery forest (Å. Holm, UUZM), 18. Northeastern: SW Rumuruti at Ewaso Narok River, Jan. 24, 1975 (T. Kronestedt, NRS), 19.

DISTRIBUTION: Ivory Coast east to Kenya.

Camillina procurva (Purcell) Figures 29–32

Melanophora procurva Purcell, 1908, p. 239, figs. 24, 25 (male and female syntypes from Kamag-



Figs. 29-32. Camillina procurva (Purcell). 29. Palp, ventral view. 30. Palp, retrolateral view. 31. Epigynum, ventral view. 32. Epigynum, dorsal view.

gas, Little Namaqualand, Cape Province, South Africa, in SAM, examined).

Camillina procurva: Tucker, 1923, p. 345.

DIAGNOSIS: The distally situated prolateral embolar ridge of males (figs. 29, 30) and elongated medial area of the female epigynum (figs. 31, 32) are diagnostic.

MALE: Total length 2.99, 4.05. Carapace 1.44, 1.82 long, 1.03, 1.35 wide. Femur II 0.90, 1.17 long. Eye sizes and interdistances: AME 0.06, ALE 0.08, PME 0.09, PLE 0.08; AME-AME 0.04, AME-ALE 0.01, PME-PME 0.02, PME-PLE 0.03, ALE-PLE 0.04; MOQ length 0.22, front width 0.16, back width 0.20. Embolus with short, prolaterally situated distal ridge (figs. 29, 30). Leg spination: femora: II p0-0-0; III p0-0-1; tibia IV p1-1-1.

FEMALE: Total length 4.57-6.55. Carapace 1.89-2.09 long, 1.40-1.58 wide. Femur II 1.19-1.33 long. Eye sizes and interdistances: AME 0.08, ALE 0.10, PME 0.13, PLE 0.11; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.03, PME-PLE 0.03, ALE-PLE 0.04; MOQ length 0.30, front width 0.21, back width 0.29. Posterior epigynal ducts elongated, posterior edges of lateral ducts far from

spermathecae (figs. 31, 32). Leg spination: tibiae: II v1p-0-0; IV p1-1-1; metatarsi: I v2-0-0; III v2-1p-0.

MATERIAL EXAMINED: South Africa: Cape Province: Kamaggas, Little Namaqualand, July-Aug. 1904 (L. Schultze, SAM), 18, 18 (types); Matjesfontein, Nov. 1897 (W. F. Purcell, SAM), 19; Montagu, Mar. 1896 (W. F. Purcell, SAM), 19; Prince Albert, Sept. 1896 (W. F. Purcell, SAM), 19; Sederberg, Clanwilliam District, July 1962, elev. 500–1100 m, humus under bush or large stones (N. Leleup, MRAC), 18.

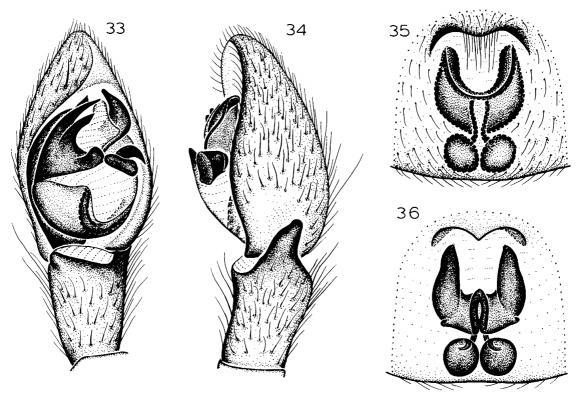
DISTRIBUTION: Cape Province of South Africa.

Camillina capensis, new species Figures 33–36

Types: Male holotype and female paratype from the Pineapple Research Station, East London, Cape Province, South Africa (May–June 1979: G. Petty and D. Keetch), deposited in NCA.

ETYMOLOGY: The specific name refers to the type locality.

DIAGNOSIS: Males resemble those of *C. cordifera* but can be distinguished by the



Figs. 33–36. Camillina capensis, new species. 33. Palp, ventral view. 34. Palp, retrolateral view. 35. Epigynum, ventral view. 36. Epigynum, dorsal view.

longer distal points of the terminal apophysis (fig. 33); females resemble those of *C. procurva* but the lateral epigynal ducts extend much further posteriorly (figs. 35, 36).

MALE: Total length 3.71–5.29. Carapace 1.80–2.50 long, 1.37–2.00 wide. Femur II 1.14–1.55 long. Eye sizes and interdistances: AME 0.09, ALE 0.11, PME 0.14, PLE 0.12; AME-AME 0.09, AME-ALE 0.05, PME-PME 0.06, PME-PLE 0.06, ALE-PLE 0.08; MOQ length 0.38, front width 0.27, back width 0.34. Embolus folded retrolaterally, distal points of terminal apophysis elongate (figs. 33, 34). Leg spination: tibiae: II v0-2-0; IV p1-1-1; metatarsi: I v2-0-0; III v2-1p-0.

FEMALE: Total length 4.14, 5.36. Carapace 1.85, 1.87 long, 1.24, 1.51 wide. Femur II 1.10, 1.19 long. Eye sizes and interdistances: AME 0.07, ALE 0.08, PME 0.09, PLE 0.07; AME-AME 0.06, AME-ALE 0.03, PME-PME 0.01, PME-PLE 0.04, ALE-PLE 0.05;

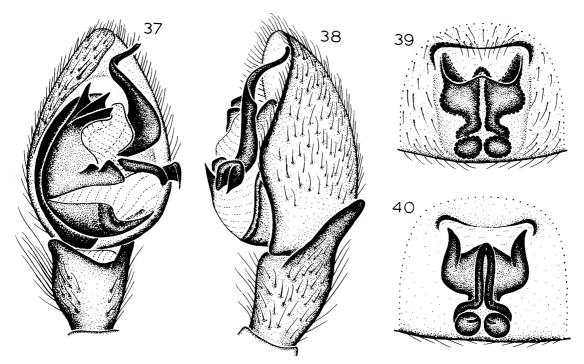
MOQ length 0.23, front width 0.20, back width 0.19. Lateral epigynal ducts extending posteriorly almost to spermathecae (figs. 35, 36). Leg spination: tibiae: II v0-1p-0; IV p1-1-1; metatarsi: I v2-0-0; III v2-1p-0.

OTHER MATERIAL EXAMINED: South Africa: Cape Province: "Doornek, Alexander Div.," Oct. 1899 (J. L. Drège, SAM), 19; Grahamstown, Nov. 9, 1978, on compost heap (P. Croeser, NCA), 18, Apr. 1980 (P. Croeser, NCA), 18; Pineapple Research Station, East London, May-June 1979 (G. Petty, D. Keetch, NCA), 2 &.

DISTRIBUTION: Cape Province of South Africa.

Camillina namibensis, new species Figures 43, 44

TYPE: Female holotype from an elevation of 970 m at 13 mi west of Konkip, Namibia (May 4, 1958; E. S. Ross and R. E. Leech), deposited in CAS.



Figs. 37-40. Camillina biplagia Tucker. 37. Palp, ventral view. 38. Palp, retrolateral view. 39. Epigynum, ventral view. 40. Epigynum, dorsal view.

ETYMOLOGY: The specific name refers to the type locality.

DIAGNOSIS: Females resemble those of *C. procurva* and *C. capensis* but can be distinguished by having the posterolateral edges of the lateral epigynal ducts almost touching the spermathecae (figs. 43, 44).

MALE: Unknown.

FEMALE: Total length 5.33–7.99. Carapace 2.45–2.99 long, 1.85–2.23 wide. Femur II 1.58–1.93 long. Eye sizes and interdistances: AME 0.09, ALE 0.09, PME 0.14, PLE 0.11; AME-AME 0.09, AME-ALE 0.03, PME-PME 0.03, PME-PLE 0.07, ALE-PLE 0.07; MOQ length 0.33, front width 0.27, back width 0.31. Median epigynal ducts short; lateral ducts reaching almost to spermathecae (figs. 43, 44). Leg spination: tibiae: III r1-1-1; IV p1-1-1; metatarsi: I v2-0-0; III v2-2-0.

OTHER MATERIAL EXAMINED: Namibia: Gobabeb, Namib Desert Park, Mar. 3, 1967 (NMP), 19; Kubub, May 5, 1958, elev. 1450 m (E. S. Ross, R. E. Leech, CAS), 19.

DISTRIBUTION: Namibia.

Camillina biplagia Tucker Figures 37-40

Camillina biplagia Tucker, 1923, p. 339, fig. 57a, b (female holotype from Great Winterhoek Mountains, Cape Province, South Africa, in SAM, examined).

DIAGNOSIS: This distinctive species can easily be recognized by the long, sinuous embolus of males (figs. 37, 38) and the very short median epigynal plate of females (fig. 39).

MALE: Total length 3.46–4.70. Carapace 1.46–2.14 long, 1.08–1.62 wide. Femur II 0.94–1.44 long. Eye sizes and interdistances: AME 0.08, ALE 0.09, PME 0.11, PLE 0.08; AME-AME 0.05, AME-ALE 0.03, PME-PME 0.01, PME-PLE 0.03, ALE-PLE 0.04; MOQ length 0.25, front width 0.21, back width 0.23. Embolus long, sinuous, basally thickened (figs. 37, 38). Leg spination: metatarsi I v2-0-0.

FEMALE: Total length 4.60 ± 0.60 . Carapace 1.70 ± 0.24 long, 1.33 ± 0.15 wide. Femur II 1.15 ± 0.14 long. Eye sizes and interdistances: AME 0.08, ALE 0.09, PME

0.12, PLE 0.09; AME-AME 0.05, AME-ALE 0.03, PME-PME 0.01, PME-PLE 0.03, ALE-PLE 0.05; MOQ length 0.27, front width 0.21, back width 0.25. Median epigynal plate short, bilobed; median epigynal ducts elongate (figs. 39, 40). Leg spination: metatarsi I v2-0-0.

MATERIAL EXAMINED: South Africa: Cape Province: Bergyliet, Diep River, Dec. 1919 (W. F. Purcell, SAM), 18, 19; Ceres, Oct. 1897 (R. M. Lightfoot, SAM), 28; Die Vlug, near Avontuur, Dec. 16-19, 1981, elev. 800 m, dung trap (S. and J. Peck, AMNH), 18, 19; Great Winterhoek Mountains, Nov. 21-24, 1916, elev. 3700-4700 ft (R. W. Tucker, SAM), 5º (including type); Hout Bay, Nov. 1901 (W. F. Purcell, SAM), 29; Kalk Bay Mountains, Mar. 1902 (W. F. Purcell, SAM), 19; Matroosberg Mountains, Dec. 1917, elev. 4000 ft (R. W. Tucker, SAM), 19; Saldanha Bay, Nov. 18, 1949 (B. Malkin, CAS), 19; Signal Hill, Cape Town, Nov. 1896 (W. F. Purcell, SAM), 19; Table Mountain, foot of Platteklip Ravine, Dec. 1914 (R. M. Lightfoot, R. W. Tucker, SAM), 39.

DISTRIBUTION: Cape Province of South Africa.

Camillina elegans (Bryant)

Eilicina elegans Bryant, 1940, p. 391, figs. 165, 169 (female holotype from Maisí, Oriente, Cuba, in MCZ, examined).

Drassyllus elegans: Platnick and Shadab, 1980, p. 338; 1982a, p. 8.

Camillina elegans: Platnick and Shadab, 1982b, p. 4, figs. 1-4.

Note: This distinctive species, evidently native to the Caribbean area, has been found at various sites in the Old World, probably introduced by humans. For convenience, all the Old World records are tabulated below. Males can easily be recognized by the prolateral spur on the embolus (Platnick and Shadab, 1982b, fig. 1), females by the long median ducts coiled around the spermathecae (Platnick and Shadab, 1982b, figs. 3, 4).

OLD WORLD RECORDS: Angola: Cuanza-sul: Porto Amboim, Oct. 4, 1949 (B. Malkin, CAS), 19. Hawaii: Hawaii: Volcano Road, Kau district, Dec. 25, 1949 (N. E. Morton, AMNH), 19. Lanai: Lanai City, Aug. 1963 (Otto, Degnenten, AMNH), 18. Maui: NW Wailea, Makawao District, Dec. 20, 1976 (V.

Roth, AMNH), 12. Oahu: Ekahanui Gulch, Oct. 13, 1944 (H. S. Dybas, FMNH), 18; Kailua, Apr. 18, 1965, in home (T. Suman, BPBM), 18, Aug. 15, 1966, in house (BPBM), 12; Waianae Range, 1.5 mi N Ekahanui Gulch, Oct. 11, 1944 (H. S. Dybas, FMNH), 12; across Route 72 from Wawamalu Beach, Koko Head region, July 3, 1964 (T. Suman, BPBM), 18. Marshall Islands: Kwajalein Atoll: Roi-Namur Islet, July 27, 1969, in grass clumps (J. W. Berry, JAB), 28. Papua New Guinea: Morobe District: Lake Wanum, about 5 mi NW Lae, Sept. 14, 1964, from rotten coconut (M. E. Bacchus, BMNH), 18.

THE NEW WORLD SPECIES

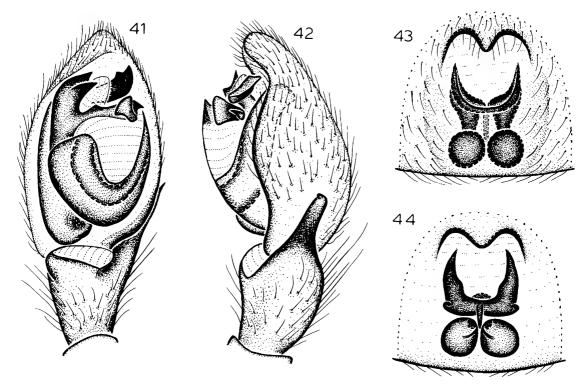
The American species of Camillina were revised by Platnick and Shadab (1982b); the new descriptions, records, and synonymies appended below follow the largely geographical sequence in which species were treated in that revision. Several previously unknown males have here been tentatively matched with females even though the two sexes have not yet been collected together; we have preferred to risk mismatches rather than establish new names that would probably prove synonymous.

Camillina balboa Platnick and Shadab Figures 41, 42

Camillina balboa Platnick and Shadab, 1982b, p. 17, figs. 45, 46 (female holotype from Balboa, Canal Zone, Panama, in MCZ, examined).

DIAGNOSIS: The male, newly described here, will key out to *C. gaira* in Platnick and Shadab (1982b, p. 16) but can be distinguished easily by the much shorter embolus; the palp seems closest to that of *C. campeche* but has a distally broader embolus (fig. 41).

MALE: Total length 2.41–2.87. Carapace 1.19–1.36 long, 0.86–0.97 wide. Femur II 0.76–0.79 long. Eye sizes and interdistances: AME 0.04, ALE 0.06, PME 0.06, PLE 0.06; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.03, PME-PLE 0.02, ALE-PLE 0.03; MOQ length 0.14, front width 0.13, back width 0.15. Terminal apophysis with two distal points; embolus scoop-shaped, shortest prolaterally (figs. 41, 42). Leg spination: femora: II p0-0-0; III p0-0-1, r0-0-1; tibia III



Figs. 41-44. 41, 42. Camillina balboa Platnick and Shadab. 43, 44. C. namibensis, new species. 41. Palp, ventral view. 42. Palp, retrolateral view. 43. Epigynum, ventral view. 44. Epigynum, dorsal view.

v1p-2-2; metatarsi: II v1r-0-0; III p0-2-2, r0-1-2.

FEMALE: See Platnick and Shadab (1982b). New Records: Panama: Canal Zone: Forest Preserve, Jan. 8, 1958 (A. M. Chickering, MCZ), 26. Panamá: Playa Corona, Aug. 9, 1983, litter behind beach (V. E. Davies, QMB), 16, 19.

DISTRIBUTION: Panama and northwestern Colombia.

Camillina pulcher (Keyserling)

Echemus pulcher Keyserling, 1891, p. 31, fig. 10a (male lectotype from Rio Grande, Rio Grande do Sul, Brazil, in BMNH, examined).

Zelotes tucumanus Mello-Leitão, 1941, p. 171, fig. 61 (male holotype from La Cocha, Tucumán, Argentina, in MLP, examined). NEW SYN-ONYMY.

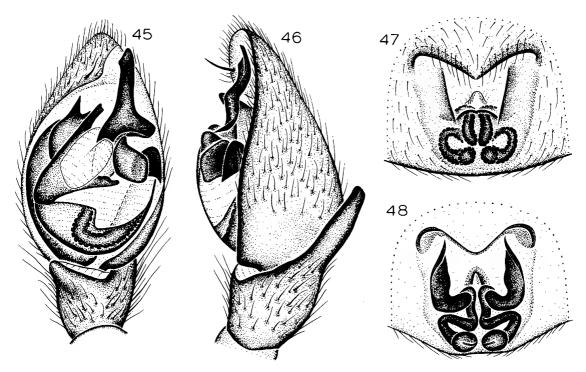
Camillina pulcher: Platnick and Shadab, 1982b, p. 22, figs. 61-64.

New Records: Argentina: Buenos Aires: Bella Vista, Jan. 1966 (J. M. Gallardo, MACN), 19; Buenos Aires, Dec. 12, 1946

(Caseros, MACN), 2º, Nov. 1948 (D. I. Carpintero, MACN), 1º, Oct. 1957 (R. D. Schiapelli, MACN), 1º; Ezeiza, June 14, 1981 (Ramirez, MACN), 1º; General Juan Madariaga, Dec. 1952 (D'Amico, MACN), 1ô, 1º; Pergamino, Apr. 4, 1979 (MACN), 1ô. Córdoba: Calamuchita, Dec. 1940 (M. J. Viana, MACN), 1º, Jan. 1955 (M. J. Viana, MACN), 2º, Sept. 1960 (M. J. Viana, MACN), 1ô; El Sauce, Calamuchita, Dec. (M. J. Viana, MACN), 1º. Tucumán: La Cocha (M. Birabén, MNRJ), 1ô.

DISTRIBUTION: Southern Brazil and Argentina.

Synonymy: As noted by Platnick and Shadab (1982b, p. 4), the holotype of Z. tucumanus lacks both palpi and was therefore not identifiable by those authors. The discovery of a male (MNRJ) from the type locality that was identified as Z. tucumanus by Mello-Leitão, is probably part of the type series, and fits his illustration well now allows the name to be placed; the redescription is attributable to a generic misplacement.



Figs. 45-48. 45, 46. Camillina nova Platnick and Shadab. 47, 48. Zelotes bastardi (Simon). 45. Palp, ventral view. 46. Palp, retrolateral view. 47. Epigynum, ventral view. 48. Epigynum, dorsal view.

Camillina nova Platnick and Shadab Figures 45, 46

Camillina nova Platnick and Shadab, 1982b, p. 22, figs. 67, 68 (female holotype from Fazenda Itaquerê, Nova Europa, São Paulo, Brazil, in MSP, examined).

DIAGNOSIS: The male, newly described here and tentatively matched with *C. nova* because of possible correlations between the long embolus and retrolateral tibial apophysis of males and the long median epigynal plate of females, can be recognized easily by the distally expanded embolus (figs. 45, 46).

MALE: Total length 4.66. Carapace 2.14 long, 1.56 wide. Femur II 1.31 long. Eye sizes and interdistances: AME 0.06, ALE 0.08, PME 0.10, PLE 0.09; AME-AME 0.06, AME-ALE 0.01, PME-PME 0.01, PME-PLE 0.05, ALE-PLE 0.06; MOQ length 0.24, front width 0.18, back width 0.21. Embolus large, distally expanded; retrolateral tibial apophysis relatively long (figs. 45, 46). Leg spination typical for genus (but leg III missing).

FEMALE: See Platnick and Shadab (1982b).

NEW RECORDS: Argentina: Cordoba: Calamuchita, Sept. 1960 (M. J. Viana, MACN), 19. Jujuy: Yuto, Nov. 1966 (M. E. Galiano, MACN), 19. La Rioja: Ascha, 1944 (J. C. Freyre, MACN), 18. Paraguay: Misiones: Panchito Lopez, Yabebyry, Oct. 22, 1982, forest soil (V. Mahnert, MHNG), 19.

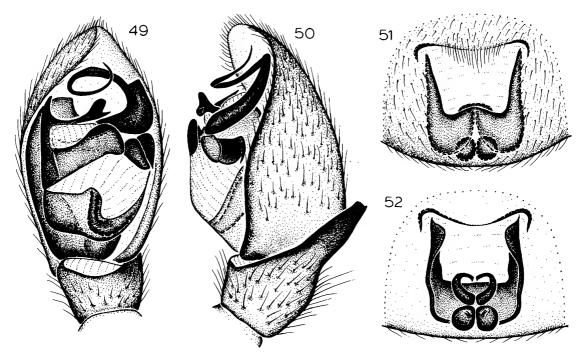
DISTRIBUTION: Southern Brazil, Paraguay, and northern Argentina.

Camillina kochalkai, new species Figures 49-52

TYPES: Male holotype and female paratype taken in forest litter at Madrejón, Parque Nacional Defensores del Chaco, Chaco, Paraguay (September 10–11, 1982; J. A. Kochalka), deposited in AMNH.

ETYMOLOGY: The specific name is a patronym in honor of the collector.

DIAGNOSIS: This species resembles the sympatric *C. madrejon* in having the medial epigynal plate of females invaginated posteriorly, but can be distinguished by the broad median longitudinal dark black stripe on the



Figs. 49-52. Camillina kochalkai, new species. 49. Palp, ventral view. 50. Palp, retrolateral view. 51. Epigynum, ventral view. 52. Epigynum, dorsal view.

carapace, as well as the broad terminal apophysis and shorter embolar coil of males (figs. 49, 50) and the longer epigynal plate of females (fig. 51).

MALE: Total length 2.41–2.74. Carapace 1.12–1.22 long, 0.83–0.89 wide. Femur II 0.56–0.73 long. Eye sizes and interdistances: AME 0.03, ALE 0.05, PME 0.06, PLE 0.06; AME-AME 0.03, AME-ALE 0.01, PME-PME 0.01, PME-PLE 0.02, ALE-PLE 0.03; MOQ length 0.15, front width 0.09, back width 0.13. Terminal apophysis broad; embolus coiled (figs. 49, 50). Leg spination: femora: III p0-0-1, r0-0-1; IV p0-0-0; tibia III v1p-2-2; metatarsi: III p0-1-2, v0-0-0, r0-1-2; IV p0-2-2, v2-1p-0, r0-2-1.

FEMALE: Total length 2.56-2.77. Carapace 1.01-1.20 long, 0.82-0.88 wide. Femur II 0.59-0.63 long. Eye sizes and interdistances: AME 0.03, ALE 0.05, PME 0.05, PLE 0.06; AME-AME 0.02, AME-ALE 0.00, PME-PME 0.00, PME-PLE 0.03, ALE-PLE 0.02; MOQ length 0.14, front width 0.08, back width 0.10. Median epigynal plate invaginated posteriorly; median ducts widened pos-

teriorly (figs. 51, 52). Leg spination: femora: I, II p0-0-0; III r0-0-1; IV p0-0-0; patella III r0-0-0; tibiae: III v1p-1p-2; IV v1p-2-2; metatarsi: III p0-2-2, v0-0-0, r0-1-2; IV p0-2-2, v2-1p-0, r0-2-1.

OTHER MATERIAL EXAMINED: Four males and three females taken with the types (AMNH).

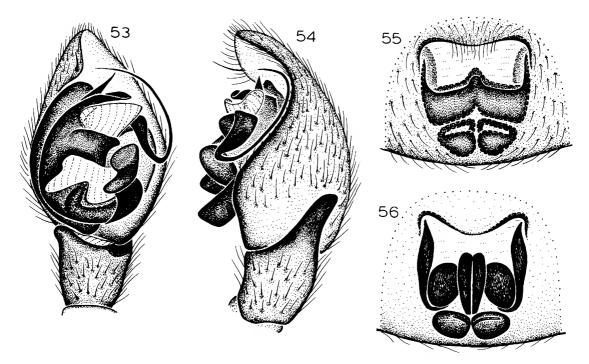
DISTRIBUTION: Paraguay.

Camillina madrejon, new species Figures 53-56

Types: Male holotype and female paratype taken in forest litter at Madrejón, Parque Nacional Defensores del Chaco, Chaco, Paraguay (September 10–11, 1982; J. A. Kochalka), deposited in AMNH.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: This species resembles the sympatric *C. kochalkai* but lacks the distinctive black carapace stripe; males have a longer embolar coil (figs. 53, 54); females have a shorter epigynal plate (figs. 55, 56).



Figs. 53-56. Camillina madrejon, new species. 53. Palp, ventral view. 54. Palp, retrolateral view. 55. Epigynum, ventral view. 56. Epigynum, dorsal view.

MALE: Total length 2.44–2.73. Carapace 1.17–1.22 long, 0.85–0.97 wide. Femur II 0.63–0.70 long. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.07, PLE 0.07; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.01, PME-PLE 0.03, ALE-PLE 0.03; MOQ length 0.20, front width 0.15, back width 0.15. Terminal apophysis with three distal points; embolus looping retrolaterally (figs. 53, 54). Leg spination: femora: III r0-0-1; IV p0-0-0; tibia III v1p-2-2; metatarsi: I v2-0-0; III p0-2-2, r0-1-2; IV v2-1p-0.

FEMALE: Total length 2.81–4.14. Carapace 1.23–1.42 long, 0.86–1.08 wide. Femur II 0.63–0.81 long. Eye sizes and interdistances: AME 0.05, ALE 0.08, PME 0.08, PLE 0.09; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.01, PME-PLE 0.04, ALE-PLE 0.03; MOQ length 0.21, front width 0.15, back width 0.17. Epigynal plate very short, invaginated posteriorly; posterior ducts elongate (figs. 55, 56). Leg spination: femur IV p0-0-0; tibia III v1p-2-2; metatarsi: I v2-0-0; III p0-2-2; IV v2-1p-0.

OTHER MATERIAL EXAMINED: Five males

and five females taken with the types (AMNH).

DISTRIBUTION: Paraguay.

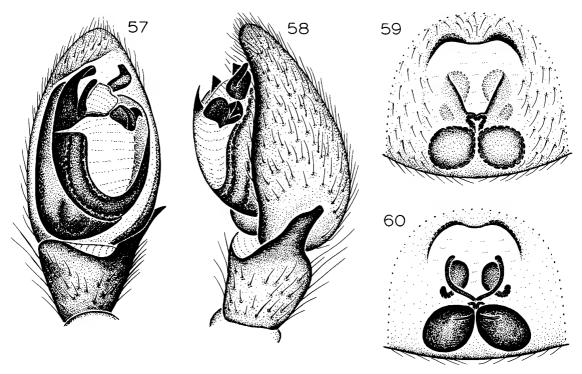
Camillina cui, new species Figures 65, 66

TYPE: Male holotype taken under stones in the Parque Nacional Ybycuí, Paraguarí, Paraguay (September 3-4, 1984; J. A. Kochalka), deposited in AMNH.

ETYMOLOGY: The specific name is an arbitary combination of letters.

DIAGNOSIS: Males can be recognized easily by the semicircular embolus (figs. 65, 66).

MALE: Total length 2.90. Carapace 1.33 long, 1.09 wide. Femur II 0.90 long. Eye sizes and interdistances: AME 0.06, ALE 0.09, PME 0.12, PLE 0.09; AME-AME 0.06, AME-ALE 0.02, PME-PME 0.01, PME-PLE 0.03, ALE-PLE 0.03; MOQ length 0.23, front width 0.18, back width 0.25. Embolus semicircular, with translucent outer flange (figs. 65, 66). Leg spination: tibiae: I v0-1r-0; II v1r-1r-0;



Figs. 57-60. Camillina mahnerti, new species. 57. Palp, ventral view. 58. Palp, retrolateral view. 59. Epigynum, ventral view. 60. Epigynum, dorsal view.

III v1p-2-2; IV p1-1-1; metatarsi: I v2-0-0; II v2-1p-0; III p0-2-2, r0-1-2.

FEMALE: Unknown.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Paraguay.

Camillina mahnerti, new species Figures 57–60

Types: Male holotype and female paratype from San Lorenzo, Asunción, Central, Paraguay (October 5, 1979; V. Mahnert), deposited in MHNG.

ETYMOLOGY: The specific name is a patronym in honor of the collector.

DIAGNOSIS: This distinctive species is easily recognized by the hook-shaped, distally narrowed embolus of males (figs. 57, 58) and the small median epigynal plate of females (fig. 59).

MALE: Total length 2.23-3.04. Carapace 1.04-1.41 long, 0.84-1.00 wide. Femur II 0.60-0.83 long. Eye sizes and interdistances: AME 0.05, ALE 0.07, PME 0.08, PLE 0.07;

AME-AME 0.04, AME-ALE 0.01, PME-PME 0.02, PME-PLE 0.03, ALE-PLE 0.03; MOQ length 0.19, front width 0.14, back width 0.18. Distal point of terminal apophysis elongate; embolus hook-shaped (figs. 57, 58). Leg spination: femora: II d1-0-0, p0-0-0; III p0-0-1, r0-0-1; IV p0-0-0; tibiae III, IV v1p-2-2; metatarsi: II v1p-0-0; III p0-1-1, v1p-0-0, r0-0-1; IV p0-2-2.

FEMALE: Total length 2.29–3.51. Carapace 0.97–1.20 long, 0.81–0.90 wide. Femur II 0.59–0.73 long. Eye sizes and interdistances: AME 0.05, ALE 0.06, PME 0.07, PLE 0.07; AME-AME 0.04, AME-ALE 0.01, PME-PME 0.01, PME-PLE 0.03, ALE-PLE 0.04; MOQ length 0.17, front width 0.14, back width 0.15. Median epigynal plate small, triangular; posterior ducts directed laterally (figs. 59, 60). Leg spination: femora: I d1-0-0; II d1-0-0, p0-0-0; III p0-0-1, r0-0-1; IV p0-0-0, r0-0-0; patella III r0-0-0; tibiae: III p0-1-1, v1p-2-2, r0-1-0; metatarsi: II v1r-0-0; III p0-1-1, v0-0-0, r0-1-1; IV p0-2-2, v2-0-0, r0-2-1.

OTHER MATERIAL EXAMINED: Paraguay: Caaguazú: 20 km N Coronel Oviedo, Oct. 7, 1979, epiphytes (V. Mahnert, MHNG), 12, Oct. 8, 1979, litter (V. Mahnert, MHNG), 13. Central: San Lorenzo, Asunción, Oct. 5, 1979 (V. Mahnert, MHNG), 25. Itapúa: 10 km S Santa María, Oct. 25, 1982, forest soil (V. Mahnert, MHNG), 13, 12. Neembucú: 5 km NW Pilar, Oct. 18, 1982, shrubs (V. Mahnert, MHNG), 22. Paraguarí: 3 km N Carapeguá, Oct. 7, 1982, shrubs, dead wood (V. Mahnert, MHNG), 43.

DISTRIBUTION: Paraguay.

Camillina major (Keyserling) Figures 67, 68

Echemus major Keyserling, 1891, p. 32, fig. 11 (female holotype from Rio Grande, Rio Grande do Sul, Brazil, in BMNH, examined). Camillina major: Platnick and Shadab, 1982b, p. 24, figs. 71, 72.

DIAGNOSIS: The male, newly described here and tentatively associated with *C. major*, is easily recognized by the embolar coil, which is recessed behind the terminal apophysis and is visible in ventral view as a distal hook (fig. 67).

MALE: Total length 4.14. Carapace 1.73 long, 1.26 wide. Femur II 1.01 long. Eye sizes and interdistances: AME 0.06, ALE 0.09, PME 0.09, PLE 0.09; AME-AME 0.06, AME-ALE 0.02, PME-PME 0.03, PME-PLE 0.04, ALE-PLE 0.05; MOQ length 0.24, front width 0.18, back width 0.21. Distal portion of embolus arising prolaterally, coiling along tip of cymbium (figs. 67, 68). Leg spination: femora: I, II p0-0-0; III r0-0-1; tibia II v0-2-0; metatarsi III, IV p0-2-2.

FEMALE: See Platnick and Shadab (1982b). New Records: Argentina: Buenos Aires: Sierra de la Ventana, Sept. 30-Oct. 3, 1972 (M. E. Galiano, MACN), 18. Santiago del Estero: Colonia Dora, 1940 (B. Houssay, MACN), 29.

DISTRIBUTION: Southern Brazil and Argentina.

Camillina pilar, new species Figures 61–64

TYPE: Female holotype taken in a *Eucalyptus* forest 5 km northwest of Pilar, Neem-

bucú, Paraguay (October 18, 1982; V. Mahnert), deposited in MHNG.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

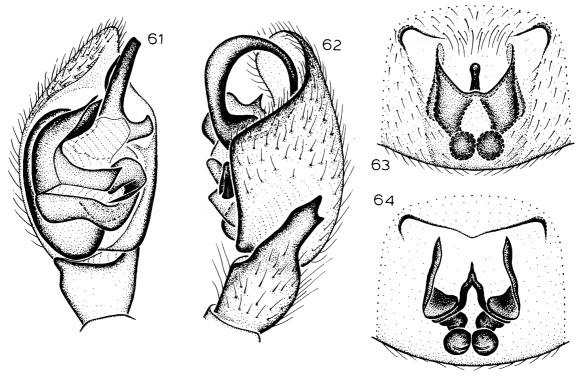
DIAGNOSIS: Six South American species (C. major, C. pilar, C. marmorata, C. mauryi, C. oruro, and C. cordoba) form a distinctive group easily recognized by the divided epigynal plate of females (Platnick and Shadab, 1982b, figs. 71–76); males of the group (described here for the first time) have a prolaterally shifted tip of the terminal apophysis as well as an elongated and often coiled embolus (as in figs. 79, 80). Males of C. pilar can be recognized by the long retrolateral flange situated at the base of the embolus (fig. 61) and the bifid tip of the retrolateral tibial apophysis (fig. 62); females resemble those of C. major in having widely separated anterolateral epigynal margins but differ in the conformation of the epigynal ducts (fig. 64).

MALE: Total length 3.38. Carapace 1.68 long, 1.22 wide. Femur II 0.97 long. Eye sizes and interdistances: AME 0.05, ALE 0.07, PME 0.07, PLE 0.08; AME-AME 0.06, AME-ALE 0.01, PME-PME 0.04, PME-PLE 0.04, ALE-PLE 0.04; MOQ length 0.21, front width 0.15, back width 0.18. Terminal apophysis scoop-shaped, with two distal points; embolus long, coiling dorsally; tip of retrolateral tibial apophysis bifid (figs. 61, 62). Leg spination: femur IV p0-0-0; tibia IV v1p-2-2; metatarsi: III p0-2-2; IV v2-1p-0.

FEMALE: Total length 3.74. Carapace 1.51 long, 1.15 wide. Femur II 0.92 long. Eye sizes and interdistances: AME 0.05, ALE 0.08, PME 0.09, PLE 0.08; AME-AME 0.06, AME-ALE 0.02, PME-PME 0.01, PME-PLE 0.03, ALE-PLE 0.03; MOQ length 0.22, front width 0.16, back width 0.19. Epigynal plate divided, far from anterolateral margins; anteromedian ducts distinct (figs. 63, 64). Leg spination: femora: I d1-0-0, p0-0-0; II, IV p0-0-0; patella III r0-0-0; tibiae III, IV v1p-2-2; metatarsi: II v0-0-0; III p0-2-2, r0-1-2; IV v2-1p-0.

OTHER MATERIAL EXAMINED: One male taken at Diecisiete de Octubre, Misiones, Argentina in October, 1953, by the De Carlo-Schiapelli-Viana-Galiano expedition (MACN) is tentatively associated with the female holotype.

DISTRIBUTION: Southern Paraguay and northern Argentina.



Figs. 61-64. Camillina pilar, new species. 61. Palp, ventral view. 62. Palp, retrolateral view. 63. Epigynum, ventral view. 64. Epigynum, dorsal view.

Camillina marmorata (Mello-Leitão) Figures 69, 70

Zelotes marmoratus Mello-Leitão, 1943, p. 112, fig. 13 (female holotype from Río Diamante, Mendoza, Argentina, in MLP, examined). Camillina marmorata: Platnick and Shadab, 1982b, p. 25, figs. 73, 74.

DIAGNOSIS: The male, newly described here, resembles *C. cauca* in having a bifid embolus but has a very different, distally rounded terminal apophysis (figs. 69, 70).

MALE: Total length 3.71, 3.73. Carapace 1.73, 1.81 long, 1.23, 1.31 wide. Femur II 1.01, 1.08 long. Eye sizes and interdistances: AME 0.08, ALE 0.09, PME 0.11, PLE 0.09; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.01, PME-PLE 0.04, ALE-PLE 0.06; MOQ length 0.26, front width 0.21, back width 0.23. Terminal apophysis tubular, rounded distally; embolus bifid (figs. 69, 70). Leg spination: metatarsus I v2-0-0.

FEMALE: See Platnick and Shadab (1982b). New Records: Argentina: Buenos Aires: Argerich, Villarino, July 1958 (D. Hepper, MACN), 28, 19; Sierra de la Ventana, Nov. 1962 (M. E. Galiano, MACN), 2º. Chubut: Bahía Arredondo, Jan. 1976 (E. A. Maury, MACN), 1ô; E side, Golfo San José, Aug. 7, 1972 (MACN), 1º. Jujuy: Abra Pampa, Feb. 1966 (E. A. Maury, MACN), 2º. Neuquén: Laguna Blanca, Jan. 1974 (E. A. Maury, MACN), 1º. San Luis: San Francisco, Nov. 1970 (Williner, MACN), 1º. Santa Cruz: Calafate: Jan. 23, 1980 (P. Goloboff, MACN), 1ô; Parque Nacional Los Glaciares, Feb. 1972 (E. R. Hernandez, MACN), 1º.

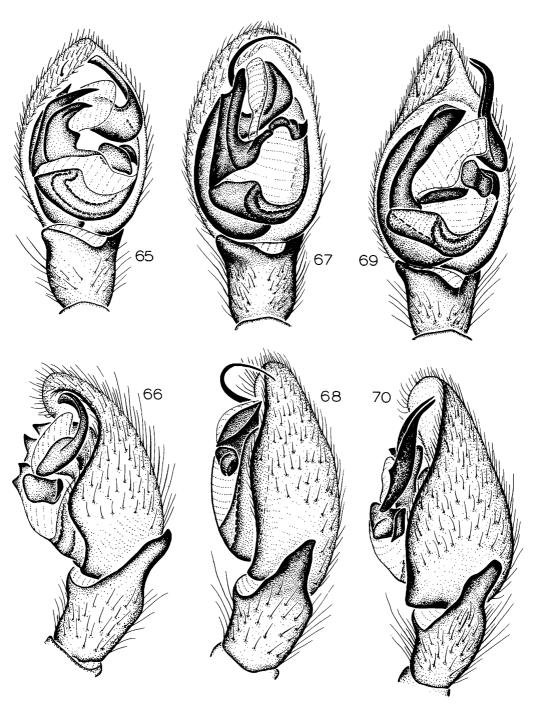
DISTRIBUTION: Argentina and Bolivia.

Camillina mauryi, new species Figures 71–74

TYPE: Female holotype from Nihuil, Mendoza, Argentina (January 1975; E. A. Maury), deposited in MACN.

ETYMOLOGY: The specific name is a patronym in honor of the collector.

DIAGNOSIS: Females resemble those of *C. marmorata* but differ in having inwardly, rather than outwardly, curved posterior epigynal ducts (fig. 74); males can be recognized

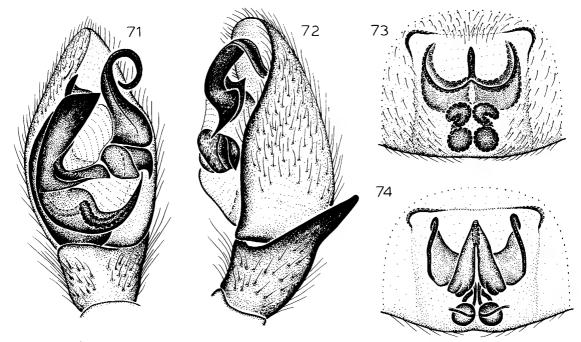


Figs. 65-70. 65, 66. Camillina cui, new species. 67, 68. C. major (Keyserling). 69, 70. C. marmorata (Mello-Leitão). 65, 67, 69. Palp, ventral view. 66, 68, 70. Palp, retrolateral view.

easily by the distally twisted embolus (figs. 71, 72).

MALE: Total length 3.58. Carapace 1.80 long, 1.32 wide. Femur II 1.04 long. Eye sizes

and interdistances: AME 0.09, ALE 0.07, PME 0.12, PLE 0.09; AME-AME 0.06, AME-ALE 0.00, PME-PME 0.02, PME-PLE 0.04, ALE-PLE 0.05; MOQ length 0.27, front width



Figs. 71-74. Camillina mauryi, new species. 71. Palp, ventral view. 72. Palp, retrolateral view. 73. Epigynum, ventral view. 74. Epigynum, dorsal view.

0.24, back width 0.26. Terminal apophysis with large prolateral point; embolus twisted (figs. 71, 72). Leg spination: metatarsus III r0-1-2.

FEMALE: Total length 3.98. Carapace 1.71 long, 1.26 wide. Femur II 1.02 long. Eye sizes and interdistances: AME 0.08, ALE 0.09, PME 0.11, PLE 0.10; AME-AME 0.06, AME-ALE 0.02, PME-PME 0.02, PME-PLE 0.03, ALE-PLE 0.04; MOQ length 0.28, front width 0.22, back width 0.24. Posterior epigynal ducts inwardly curved; anterior ducts massive, straight (figs. 73, 74). Leg spination: femora II, IV p0-0-0; tibiae III, IV v1p-2-2; metatarsi: I v2-0-0; III p0-2-2, r0-1-2; IV v2-1p-0.

OTHER MATERIAL EXAMINED: One male taken at General Roca, Río Negro, Argentina, in September 1964, by A. Bachman (MACN) is tentatively associated with the female holotype.

DISTRIBUTION: Argentina.

Camillina oruro Platnick and Shadab Figures 79, 80

Camillina oruro Platnick and Shadab, 1982b, p.

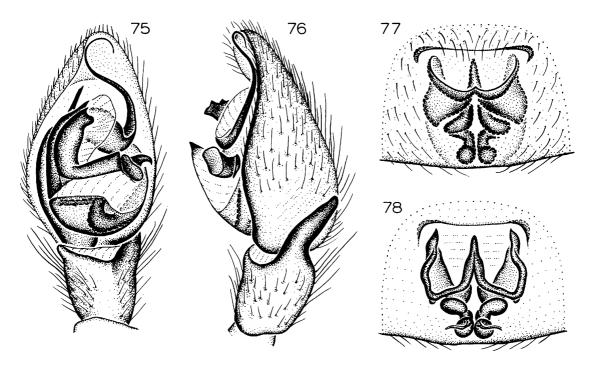
25, figs. 75, 76 (female holotype from Oruro, Oruro, Bolivia, in AMNH, examined).

DIAGNOSIS: The male, newly described here and tentatively matched with *C. oruro* on the basis of size, coloration, and geography, can easily be recognized by the distally expanded terminal apophysis and very long embolus (figs. 79, 80).

MALE: Total length 3.10. Carapace 1.37 long, 1.08 wide. Femur II missing. Eye sizes and interdistances: AME 0.06, ALE 0.07, PME 0.09, PLE 0.08; AME-AME 0.05, AME-ALE 0.01, PME-PME 0.02, PME-PLE 0.03, ALE-PLE 0.04; MOQ length 0.23, front width 0.17, back width 0.20. Terminal apophysis broadened distally; embolar coil obliquely oriented (figs. 79, 80). Leg spination (leg II missing): femur IV p0-0-0; tibia III v1p-2-2, r0-1-0; metatarsi: I v2-0-0; III p0-2-2, r0-1-2; IV v2-1p-0.

FEMALE: See Platnick and Shadab (1982b). New Records: Argentina: Jujuy: Abra Pampa, Feb. 1966 (E. A. Maury, MACN), 19. Salta: Iruya, Nov. 27, 1981, elev. 2730 m (E. A. Maury, MACN), 18.

DISTRIBUTION: Bolivia, Peru, and northern Argentina.



AMERICAN MUSEUM NOVITATES

Figs. 75-78. Camillina cordoba, new species. 75. Palp, ventral view. 76. Palp, retrolateral view. 77. Epigynum, ventral view. 78. Epigynum, dorsal view.

Camillina cordoba, new species Figures 75-78

Types: Male holotype and female paratype from Calamuchita, Córdoba, Argentina (male, September 1960, female, January 1955; M. J. Viana), deposited in MACN.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: Males can be distinguished from those of the other members of the major group by the s-shaped embolus (fig. 75), females by the folded posterior epigynal ducts (figs. 77, 78).

MALE: Total length 3.49. Carapace 1.58 long, 1.20 wide. Femur II 0.95 long. Eve sizes and interdistances: AME 0.06, ALE 0.07, PME 0.09, PLE 0.10: AME-AME 0.06, AME-ALE 0.02, PME-PME 0.03, PME-PLE 0.04, ALE-PLE 0.04; MOQ length 0.25, front width 0.18, back width 0.21. Embolus long, s-shaped; retrolateral tibial apophysis widened basally (Figs. 75, 76). Leg spination: metatarsus IV v2-0-0.

Female: Total length 4.75. Carapace 1.48 long, 1.15 wide. Femur II 0.90 long. Eye sizes and interdistances: AME 0.06, ALE 0.08,

PME 0.10, PLE 0.09; AME-AME 0.06, AME-ALE 0.02, PME-PME 0.02, PME-PLE 0.05. ALE-PLE 0.04; MOQ length 0.23, front width 0.18, back width 0.22. Posterior epigynal ducts folded laterally (figs. 77, 78). Leg spination (leg IV missing): metatarsi: I v2-0-0; III r0-1-2.

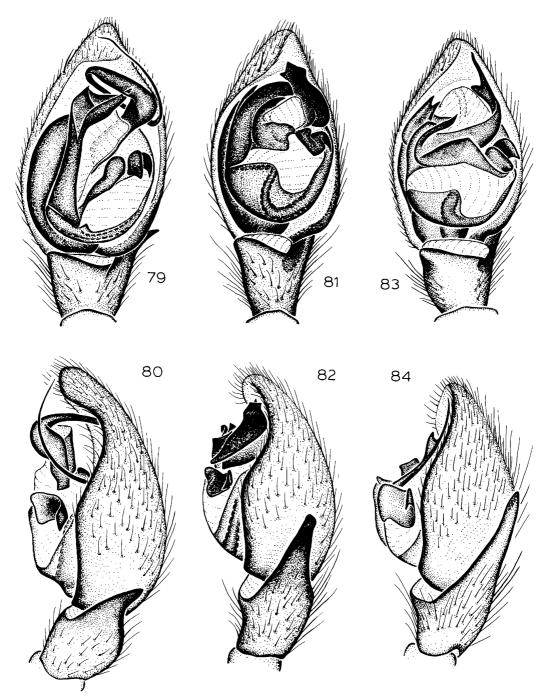
OTHER MATERIAL EXAMINED: None. DISTRIBUTION: Córdoba, Argentina.

Camillina calel Platnick and Shadab Figures 81, 82

Camillina calel Platnick and Shadab, 1982b, p. 25, figs. 77, 78 (female holotype from Lihuel-Calel, La Pampa, Argentina, in MACN, examined).

Diagnosis: The male, newly described here, resembles those of C. antigua in having a broad, flattened embolar tip but differs in having three points on that tip (figs. 81, 82); females also resemble those of C. antigua in having distinctly elevated lateral epigynal flanges dorsally, but differ in having much wider posterior epigynal ducts (Platnick and Shadab, 1982b, figs. 77, 78).

MALE: Total length 3.89. Carapace 1.75



Figs. 79-84. 79, 80. Camillina oruro Platnick and Shadab. 81, 82. C. calel Platnick and Shadab. 83, 84. C. minuta (Mello-Leitão). 79, 81, 83. Palp, ventral view. 80, 82, 84. Palp, retrolateral view.

long, 1.28 wide. Femur II 1.08 long. Eye sizes and interdistances: AME 0.07, ALE 0.09, PME 0.10, PLE 0.09; AME-AME 0.05, AME-

ALE 0.01, PME-PME 0.03, PME-PLE 0.04, ALE-PLE 0.05; MOQ length 0.25, front width 0.19, back width 0.23. Embolar tip flattened,

wide, bearing three points (figs. 81, 82). Leg spination: tibiae: III r1-1-1; IV p1-1-1; metatarsus I v1p-0-0.

FEMALE: See Platnick and Shadab (1982b). New Records: Argentina: Buenos Aires: La Petrona, Jan. 1975 (E. A. Maury, MACN), 1\overline{1}\ov

DISTRIBUTION: Argentina.

Camillina minuta (Mello-Leitão) Figures 83, 84

Echemus minutus (Mello-Leitão, 1941, p. 168, fig. 58 (female holotype from Mojón, Salta, Argentina, in MLP, examined).

Camillina minuta: Platnick and Shadab, 1982b, p. 26, figs. 79, 80.

DIAGNOSIS: The male, newly described here, confirms the conjecture of Platnick and Shadab (1982b) that this species is closest to the Venezuelan *C. relucens*; it can be distinguished from males of that species by having two distal points on the terminal apophysis (fig. 83).

MALE: Total length 3.68. Carapace 1.53 long, 1.19 wide. Femur II 0.97 long. Eye sizes and interdistances: AME 0.08, ALE 0.09, PME 0.12, PLE 0.10; AME-AME 0.06, AME-ALE 0.01, PME-PME 0.02, PME-PLE 0.04, ALE-PLE 0.03; MOQ length 0.25, front width 0.22, back width 0.26. Embolus with prolateral spur; retrolateral tibial apophysis greatly elongated (figs. 83, 84). Leg spination: tibiae: II v1r-1r-0; III v1p-2-2; IV p1-1-1; metatarsi: I v2-0-0; III r0-1-2.

FEMALE: See Platnick and Shadab (1982b). New Records: Argentina: La Rioja: La Rioja (Gomez, MACN), 19. Santiago del Estero: Weisburd, Sept. 24, 1957 (MACN), 18. DISTRIBUTION: Argentina.

Camillina galianoae, new species Figures 85–88

Types: Male holotype and female paratype

from the Sierra de la Ventana, Buenos Aires, Argentina (November 1962; M. E. Galiano), deposited in MACN.

ETYMOLOGY: This small but beautiful species is named in honor of Dr. María Elena Galiano of the Museo Argentino de Ciencias Naturales, the collector of the types and a distinguished arachnologist.

DIAGNOSIS: In addition to their distinctive coloration (with the lateral margins of the carapace and the anterior patellae, tibiae, and metatarsi darkened), males can be recognized by the distally coiled embolus (figs. 85, 86), females by the elongated epigynum (figs. 87, 88).

MALE: Total length 2.52, 2.59. Carapace 1.17, 1.19 long, 0.86, 0.88 wide. Femur II 0.64, 0.67 long. Eye sizes and interdistances: AME 0.04, ALE 0.06, PME 0.05, PLE 0.06; AME-AME 0.04, AME-ALE 0.02, PME-PME 0.03, PME-PLE 0.03, ALE-PLE 0.03; MOQ length 0.15, front width 0.11, back width 0.14. Distal points of terminal apophysis widely separated; embolus coiled distally (figs. 85, 86). Leg spination: femur IV p0-0-0; patella III r0-0-0; tibia II v1p-1p-0; metatarsi: I v2-0-0; III p0-2-2, r0-1-2; IV p0-2-2.

FEMALE: Total length 2.16, 2.52. Carapace 0.94, 1.13 long, 0.70, 0.83 wide. Femur II 0.50, 0.63 long. Eye sizes and interdistances: AME 0.03, ALE 0.05, PME 0.04, PLE 0.05; AME-AME 0.03, AME-ALE 0.01, PME-PME 0.03, PME-PLE 0.03, ALE-PLE 0.02; MOQ length 0.13, front width 0.09, back width 0.11. Epigynum elongated; medial plate widened anteriorly; posterior ducts enlarged (figs. 87, 88). Leg spination: femora: I, II p0-0-0; III r0-0-1; IV p0-0-0; patella III r0-0-0; tibiae: II v1r-0-0; III v1p-0-0, r0-1-0; IV v1p-2-2; metatarsi: I v2-0-0; III p0-2-1, v0-0-0, r0-1-2; IV p0-2-2, v1p-2-0, r0-2-1.

OTHER MATERIAL EXAMINED: Argentina: Buenos Aires: San Fernando (J. B. Daguerre, MACN), 19; Sierra de la Ventana, Oct. 1973 (M. J. Cesari, MACN), 18.

DISTRIBUTION: Buenos Aires province, Argentina.

Camillina chilensis (Simon)

Echemus chilensis Simon, 1902, p. 12 (female holotype from Viña del Mar, Valparaíso, Region de Valparaíso, Chile, in ZMH, examined).

Camillina chilensis: Platnick and Shadab, 1982b, p. 26, figs. 83-86.

NEW RECORDS: Argentina: Buenos Aires: Buenos Aires, Dec. 12, 1946 (Caseros, MACN), 18, 19; Ingeniero Maschwitz, Aug. 7, 1965 (M. E. Galiano, MACN), 18; Rosas (MACN), 19; Tigre, Aug. 1951 (M. J. Viana. MACN), 19. Chubut: Los Cipreses, Nov. 1982 (Ramirez, MACN), 38, 109. Córdoba: San Alberto, June 1972 (M. Greaven, MACN), 19. Neuquén: Cerro Chapelco, San Martin de los Andes, Feb. 1961, elev. 1700 m (M. E. Galiano, MACN), 26; Hua Hum, Jan. 17, 1985 (E. A. Maury, Toth, MACN), 18. Río Negro: 25 km from Bariloche on route 240, Jan. 1982 (Ramirez, MACN), 18. San Luis: La Carolina, Nov. 1970 (M. J. Viana, MACN), 29. Bolivia: Cochabamba: Charomoca, Dec. 1941 (Seller, MACN), 19. Chile: Region Metropolitana: Santiago: Africana, Oct. 24, 1984 (L. Irarrazaval, AMNH), 19.

DISTRIBUTION: Southern Brazil, Argentina, Bolivia, Chile, and the Juan Fernandez Islands.

Camillina penai, new species Figures 89–92

Types: Male holotype and female paratype from an elevation of 3300 m at Guatín, El Loa, Region de Antofagasta (II), Chile (August 23–31, 1982; L. E. Peña G.), deposited in AMNH.

ETYMOLOGY: The specific name is a patronym in honor of the collector.

DIAGNOSIS: The coiled embolus (figs. 89, 90) and laterally displaced median ducts (fig. 92) indicate that this is the sister species of *C. chilensis*, from which it can be distinguished by the large, arched distal prong of the terminal apophysis of males (figs. 89, 90) and the ovoid, rather than rectangular, median epigynal plate of females (fig. 91).

MALE: Total length 4.75. Carapace 1.98 long, 1.51 wide. Femur II 1.19 long. Eye sizes and interdistances: AME 0.07, ALE 0.09, PME 0.09, PLE 0.09; AME-AME 0.05, AME-ALE 0.02, PME-PME 0.04, PME-PLE 0.06, ALE-PLE 0.06; MOQ length 0.27, front width 0.19, back width 0.22. Terminal apophysis with large, arched distal prong; embolus long, coiled (figs. 89, 90). Leg spination typical for genus.

FEMALE: Total length 3.98–5.06. Carapace 1.56–2.17 long, 1.19–1.56 wide. Femur II 0.90–1.23 long. Eye sizes and interdistances: AME 0.06, ALE 0.08, PME 0.10, PLE 0.09; AME-AME 0.07, AME-ALE 0.03, PME-PME 0.03, PME-PLE 0.05, ALE-PLE 0.08; MOQ length 0.25, front width 0.19, back width 0.23. Epigynal plate ovoid, rounded posteriorly; median ducts displaced laterally (figs. 91, 92). Leg spination: metatarsi: I v2-0-0: III r1-2-2.

OTHER MATERIAL EXAMINED: One female taken with the types (AMNH) and four females taken 60 km north of Puno, Puno, Peru, on Feb. 28, 1951, by E. S. Ross and A. E. Michelbacher (CAS).

DISTRIBUTION: Northern Chile and southern Peru.

Camillina arguta (Simon)

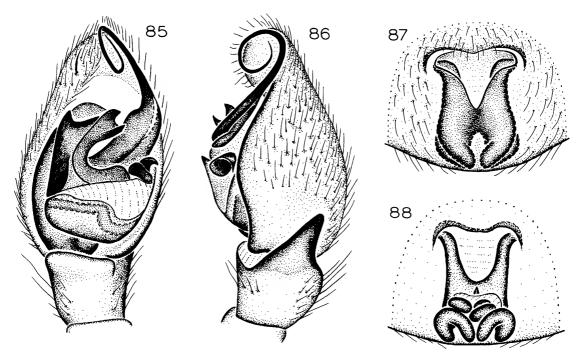
Echemus argutus Simon, 1902, p. 13 (female holotype from Santiago, Region Metropolitana, Chile, in MNHN, examined).

Camillina arguta: Berland, 1919, p. 462. Platnick and Shadab, 1982b, p. 28, figs. 87-90.

Zelotes tobari Mello-Leitão, 1940, p. 234, fig. 23 (female holotype from Casablanca, Valparaíso, Region de Valparaíso, Chile, in MNRJ, examined). NEW SYNONYMY.

Zelotes tobasi: Roewer, 1954, p. 470 (lapsus).

New Records: Chile: Region de Atacama (III): Huasco: Los Cristales, Sept. 1983 (L. E. Peña G., AMNH), 29. Region de Coquimbo (IV): Elqui: 10 km S Coquimbo, Oct. 3, 1983 (E. A. Maury, MACN), 19; Guanaqueros, Jan. 6, 1985, elev. 15 m, arid coastal scrub (N. I. Platnick, O. F. Francke, AMNH), 49; 20 km N La Serena, Jan. 6, 1985, elev. 90 m, under rocks and cactus, coastal scrub (N. I. Platnick, O. F. Francke, AMNH), 19; Lomas de Peñuelas, Jan. 6, 1985, elev. 8 m, under rocks and dead cactus (N. I. Platnick, O. F. Francke, AMNH), 3º. Limarí: Parque Nacional Fray Jorge, Nov. 10, pitfall in relict Valdivian forest (R. Calderón G., AMNH), 18. Choapa: Caleta Oscuro, Oct. 2, 1983 (E. A. Maury, MACN), 18, 79. Region de Valparaíso (V): Petorca: 2 km N Zapallar, Jan. 9, 1985, elev. 23 m, under rocks (N. I. Platnick, O. F. Francke, AMNH), 1º. Quillota: Cuesta El Melon, Jan. 10, 1985, elev. 520 m, chaparral (N. I. Platnick, O. F. Francke, AMNH), 19; Palmas de Ocoa, Parque Na-



Figs. 85–88. Camillina galianoae, new species. 85. Palp, ventral view. 86. Palp, retrolateral view. 87. Epigynum, ventral view. 88, Epigynum, dorsal view.

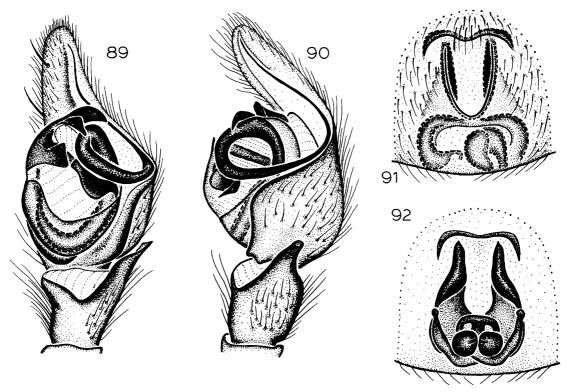
cional La Campana, May 25-Oct. 26, 1984, pitfalls in burned and unburned areas (R. Calderón G., AMNH), 118, 59. Los Andes: Guardia Vieja, Jan. 1984, elev. 1609 m (P. Goloboff, MACN), 19; Juncal, Jan. 5, 1984. elev. 1950 m (E. A. Maury, P. Goloboff, MACN), 29. Valparaíso: Casablanca (R. G. Tobar, MNRJ), 1º (type); Río Marga Marga near Los Perales, Jan. 13, 1985, elev. 15 m, dry field (N. I. Platnick, O. F. Francke, AMNH), 49. Region Metropolitana: Chacabuco: Cerro Las Vizcachas, Dec. 1-12, 1982 (L. E. Peña G., AMNH), 19; Lampa, Aug. 14-19, 1984 (L. Irarrazaval, AMNH), 29. Cordillera: El Canelo, Oct. 1963 (Fritz, MACN), 19; Guayacán, Jan. 1984 (P. Goloboff, MACN), 19. Santiago: Renca, Aug. 27, 1983 (L. Irarrazaval, AMNH), 18, 29, Oct. 11, 1984 (L. E. Peña G., AMNH), 5¢, 49. Region del Maule (VII): Talca: Parque Gilde Vilches, Jan. 1984, elev. 1200 m (P. Goloboff, MACN), 18. Cauquenes: Aqua Buena, June 12, 1984 (L. Irarrazaval, AMNH), 18. Region del Bío-Bío (VIII): Nuble: 13 km E San Fabian de Alico, Jan. 19, 1985, elev. 550 m, dry mountainside (N. I. Platnick, O. F. Francke, AMNH), 28, 19; 8 km W San Fabian de Alico, Jan. 19, 1985, elev. 320 m, dry plateau (N. I. Platnick, O. F. Francke, AMNH), 18, 29; Termas de Chillan, Jan. 20, 1985, elev. 1585 m, wet montane forest (N. I. Platnick, O. F. Francke, AMNH), 18. Concepción: Lirquén, Aug. 10, 1968 (T. Cekalovic K., AMNH), 18. Region de la Araucanía (IX): Malleco: 14 km E Malalcahuello, Jan. 25, 1985, elev. 1525 m. *Araucaria* forest (N. I. Platnick, O. F. Francke, AMNH), 19; Tolhuaca, Mar. 15-23, 1986 (L. E. Peña G., AMNH), 1º. Cautín: Volcán Villarrica, Dec. 15-29, 1982, elev. 1120 m, window trap in Nothofagus dombeyi and Saxegothea forest with Drimys (A. Newton, M. Thayer, AMNH), 2♀.

DISTRIBUTION: Chile, from Antofagasta south to Cautín.

Synonymy: Mello-Leitão's redescription is attributable to a generic misplacement.

Camillina tarapaca Platnick and Shadab

Camillina tarapaca Platnick and Shadab, 1982b, p. 29, figs. 91–94 (male holotype from Quisama,



Figs. 89-92. Camillina penai, new species. 89. Palp, ventral view. 90. Palp, retrolateral view. 91. Epigynum, ventral view. 92. Epigynum, dorsal view.

Iquique, Region de Tarapacá, Chile, in MCZ, examined).

New Record: Chile: Region de Tarapacá (I): Iquique: Humberstone, Oct. 7, 1983 (E. A. Maury, MACN), 18.

DISTRIBUTION: Northern Chile.

Camillina piura Platnick and Shadab

Camillina piura Platnick and Shadab, 1982b, p. 33, figs. 103-106 (male holotype from Pariñas Valley, Piura, Peru, in AMNH, examined).

New Record: **Peru:** Lima: Cañete Valley, Jan. 1969, cotton field (P. G. Aguilar F., PGA), 18.

DISTRIBUTION: Northern and central Peru.

Camillina galapagoensis (Banks)

Prosthesima galapagoensis Banks, 1902, p. 57, pl. 2, fig. 7 (female holotype from Albemarle, Isla Isabela, Galapagos Archipelago, in AMNH, examined).

Zelotes galapagoensis: Petrunkevitch, 1911, p. 149.

Camillina cruz Platnick and Shadab, 1982b, p. 36, figs. 117–120 (male holotype from Isla Santa Cruz, Galapagos Islands, in IRSN, examined). NEW SYNONYMY.

Synonymy: Platnick and Shadab (1982b) indicated that Banks' type specimen was lost and that his illustration is insufficient for specific identification. They recognized one of the three species known from the Galapagos as C. galapagoensis because it was the only one known from Isla Isabela (the type locality). Subsequently we have discovered in the AMNH collection a female labeled as the type of *Prosthesima galapagoensis*; it was apparently salvaged from the Stanford University collection by the late J. C. Chamberlin. Although the specimen bears no locality data. there is no reason to suspect that it is not the type, particularly as conspecific specimens are also now known from Isla Isabela. Unfortunately, the type belongs to the species described by Platnick and Shadab (1982b) as C. cruz. As a consequence, that name is here

synonymized and a new name is provided for the species misidentified by those authors as C. galapagoensis.

New Records: Ecuador: Guayas: Milagro, May 10, 1952 (AMNH), 19. Galapagos Islands: Isla Isabela: Albemarle, near Iguana Cove, June, at sea level (AMNH), 19 (type: locality information taken from description); W side, Beagle Crater, May 10, 1983 (Y. Lubin, MCZ), 19. Isla Santa Cruz: near Cerro Colorado, Nov. 24, 1981, elev. 2175 ft (Y. Lubin, AMNH), 18; Punta Ayora-Baltra road, Mar. 29, 1982, elev. 1820 ft, soil sample (Y. Lubin, AMNH), 19.

DISTRIBUTION: Ecuador and the Galapagos Islands (Isabela, Pinta, Santa Cruz).

Camillina isabela, new species

Camillina galapagoensis (misidentification): Platnick and Shadab, 1982b, p. 34, figs. 111, 112.

Type: Female holotype from Isla Isabela, Galapagos Archipelago (Apr. 27), deposited in CAS.

ETYMOLOGY: The specific name is a noun in apposition taken from the type locality.

DIAGNOSIS: The posteriorly elbowed and anteriorly transverse median epigynal ducts (Platnick and Shadab, 1982b, figs. 111, 112) are diagnostic.

MALE: Unknown.

Female: Total length 5.61. Carapace 2.04 long, 1.62 wide. Femur II 1.28 long. Eye sizes and interdistances: AME 0.07, ALE 0.10, PME 0.11. PLE 0.10: AME-AME 0.06. AME-ALE 0.02, PME-PME 0.02, PME-PLE 0.04, ALE-PLE 0.04; MOQ length 0.27, front width 0.20, back width 0.24. Epigynal plate rounded posteriorly; median ducts elbowed posteriorly, transverse anteriorly (Platnick and Shadab, 1982b, figs. 111, 112). Leg spination: femur IV p0-1-1; tibia IV p1-1-1.

OTHER MATERIAL EXAMINED: None.

DISTRIBUTION: Isla Isabela, Galapagos Islands.

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